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ILLUSTRATIONS.

The Russian Church, Dresden (Double-page Engraving).—Herr Harald Julius von Bosse, St. Petersburg, Architect 142
Evangelical Protestant Deaconesses' Institution and Training Hospital, Tottenham (Plans, 149).—Mr. E. C. Robins, Architect 144
Proposed Church of St. Saviour, Woolcot Park : View of Interior looking East 146
Proposed Church of St. Saviour, Woolcot Park.—Mr. John Bevan, Architect 147

CONTENTS.

On Quoins and some Questions collateral 131
The Responsibility of Building Owners for the Negligence of the Contractors' Workmen 132
The House of Lords on Compensation for Injuries to Land or Houses 133
The Part played by Lombard Artists in Rome 133
Continental Gatherings 135
The Oak in History, Art, and Handicraft 136
The Social Science Congress 137
Proposed further Excavations at Ephesus 138
The Worcestershire Exhibition 139
The Russian Church at Dresden 140
The Evangelical Protestant Deaconesses' Institution and Training Hospital, Tottenham 153
St Saviour's, Woolcot Park, Bristol 153
Building in Berlin 153
Edwards, Architect 153
At the Horticultural Exhibition, Islington 154
The Proceedings of the Royal Institute of British Architects 154
Foreign Notes 154
Continental Architectural Publications 155
The Largest Lock in the World 155
The History of Architectural Drawing 155
The Builders' Accident Insurance (Limited) 156
Proposed Tunnel under the Elbe 157
The Vendôme Column 157
Adulteration of Cement 157
"Owen Jones" Prizes, 1882 157
Contracts with Corporations 157
Obituary 158
Sale of Houses and Building Land in Camberwell 158
Value of City Property 158
The New Metal Exchange Buildings 158
Sale of an extensive Building Estate at Clapham 158
The Measurement of Glazing : Keylock v. Sprules 158
Builders' Benevolent Institution 159
The Proposed New Public Offices : A Competition contemplated 159
The "Blacksmith's Art" and Technical Education 159
The Late Mr. G. Somers Clarke 160
The Late Hablot K. Browne 160
Communications between North and South of the Thames, east of London Bridge 160
Local Board Surveyors 160
Variorum 160
Miscellanea 161

On Quoins and some Questions collateral.

ENOUGH was probably said in the article on "Taste in Brickwork" (June 17), as to the natural propriety of the end or angle of a brick wall being emphasised as a termination. This is merely an application of what may be admitted as an architectural axiom, that every structural transition naturally receives, if it should not be said rather to naturally demand, acknowledgment by visible differentiation, by accentuated outline, or expressive moulding. A sudden termination of a wall-curtain is a more decisive case of interruption, which is equivalent to transition, than simple change from one member to another,—as from shaft to capital, or from frieze to cornice. We have seen how the blind exigencies of construction introduce a certain difference by the interposition of the fragmentary brick, "the closer," at the end of a course, which answers its immediate purpose at the expense of weakening expression. The problem is even so forced upon us, how the exigency can be provided for in a manner to conciliate the requirement of enhanced expression of vigour. Of this problem there is one solution yet to specify even as regards pure brickwork, while it is equally applicable to proper masonry. This consists in the advance of the work for a limited breadth beyond the general plane of the wall; by this means a vertical line is obtained which, by the usual effect of well-managed repetition, whether in rhetoric or brickwork, strengthens the expression of what it manifestly insists on, in this case the vertical line of the end or angle. By such an emphatic pronunciation the disturbing suggestion of a cessation that is unprepared for, if not unexpected, and therefore liable to be violent, is precluded. Here, again, the Greeks, as in so many other cases, are our masters and instructors, and nowhere better than in that peculiarly complex structure the Erechtheum. The flank-walls of this temple on either side eastward are finished by a slightly projecting return of the anta, which answers to an angle column of the eastern portico, and, by predominance of verticality, brings the uniform horizontal progression of the courses of masonry to an authoritative pause or stop. The western anta of the north portico returns not upon a flank wall, but upon the end of a wall, upon the opposite side of which it is repeated in a position where it cannot, as having no column to answer to it, be strictly entitled an anta; the ornamental mouldings of both are made continuous, alike at summit and base, by extension across the narrow recessed end of the wall between them. Still another variation of the thoroughly organic union of anta and wall is given at the angles of the engaged colonnade of the western front. In some of these examples we have an anticipation of the principle and the beautiful effect of the compound pier of later ages. In all of them we observe that the wall seems spontaneously to develop into a new adjustment to accommodate a new exigency, even as in a natural growth a reed-stem thickens towards the bulge of a node. Organic modification of such a type is very different indeed in effect from the unhappy Roman invention of the pilaster, which, especially as employed by Palladio and his imitators, justifies the accurately descriptive words of Pope already quoted, and appears as nothing better than a thin slice stuck upon a wall, and as little capable of standing independently of it as of asserting a true structural adherence. A pilaster is seldom more objectionable than when it is employed in a vain hope of making use of its services near an angle; the wall, when allowed to reappear at the angle, will assert itself as having passed uninterrupted behind flat slabs beyond which it is emergent. Inigo Jones fought against the difficulty by setting coupled pilasters at the angles of the upper story of Whitehall, but he does not come out altogether a conqueror. The wall still appears stronger than his pilasters, which, in consequence, are only slightly less conspicuously otiose than usual. When the masonry is executed with rustic joints, the fictitiousness of any aid to be ascribed to the pilaster is self-declared, and its pretentions to constructional union are visibly repudiated. This characteristic needlessness clings to the pilaster; it is no objection to it when employed confessedly decoratively, on a small scale, or in mere furniture, but where proper architectural responsibility is in question, the pilaster may usually be most prudently dismissed,—most conscientiously denounced. It may be thought to be most endurable when, as we sometimes see it, it embraces an angle; and, in this case, it, at any rate, most nearly personates an unobjectionable pier; but, in truth, even so it only becomes equivocal, either in its own or a different character, and is neither one thing nor another; to become consistent it must divest itself of those proportions; it would be well if it also escaped from the specific capital, which declares it to be a column modified for the worse, and incongruously prompting suggestions of an independence which it is no longer capable of, but that is of the very essence of the character of a column. There is as little to be said in favour of distinct pilasters adjoining at right-angles and making the corner of the building a re-entering angle; the incongruous seems to reach its acme when a column scarcely engaged in the wall, and at a trifling interval from the pilaster, obtrudes its assistance, but only contributes to aggravate an ill-articulated huddle.

These are hard words, but the student may be trusted to verify them by observation or recollection; or let him, indeed, turn for illustrative examples to what is always a welcome reference, Fergusson's "History of Modern Architecture." The Library of St. Mark at Venice is the masterpiece of Sansovino at Venice, and it is with some touch of remorse that any disparaging reflection is made upon a building which has been regarded time after time with so much delight. Yet this pleasure was not unqualified by objections, which return in force at the sight of Mr. Fergusson's illustration at page 96 of his work. On both upper and lower arcade, column, pilaster, and wall are grouped, but cannot be said to be combined, at the angles, and the weakest member is nearest to the angle, and both entablatures finish on their weakest member. The artist was evidently unsatisfied with his work up to this point, and became conscious that more decisive emphasis was required. The stratagem of reinforcement which he resorted to scarcely fulfils his intention. Each angle of the cornice is surmounted by a lofty pinnacle, but this, in its isolation, has the unfortunate effect of rather insisting on the independence of the pilasters below it, which the entablatures had in some degree succeeded in combining with their associated columns. It was a wise hint, given by the most eloquent public speaker of our day, that it is always well, before beginning an oration, to have a well-settled scheme how it is to be concluded; this being more important for ultimate effect than even the most skilful arrangement of transitions from one leading topic to another. Architects, like orators, it may be thought, have been too frequently content to leave terminations to reconcile themselves with the central treatment as best they might. Even the Vandramini Palace at Venice (p. 93), and the Pesaro (p. 98) still less, does not fully recognise the claim of the bounding vertical line at the return of a façade to distinctly specialised emphasis.

In the so justly admired Grimani Palace (p. 27), it is only when seen from the angle that the weakness of the terminal coupled columns, as compared with their associates towards the centre, is not objectionable. Palladio is a serious offender in the way of the faults which we have been denouncing. His Valmarina Palace at Vicenza (p. 28) combines them in every form, but much is to be forgiven to him for the sake of the glorious arcades of his town-hall in the same city, where the difficulty in question is so fairly recognised and grappled with as to disarm criticism. "If, indeed," says Fergusson, "all Palladio's designs were as beautiful and appropriate as this, we should have little fault to find, either with the style he adopted or his mode of applying it" (p. 117).

The strengthening expression which is given to Giotto's campanile at Florence by the octagonal projections at the angles is the saving of a design which otherwise was in danger of appearing even insecure from associations of flimsiness with superficial ornamentation, from its tallness unrelieved by expansion towards the base, and from the excessive solidity of the unpierced portion at the summit. What happy effect may be due to a simple rectangular projection at the angles, will be seen by comparing Fergusson's "Illustration of the Campanile of S. Andrea, Mantua," with that figured after Street on the opposite page (224) from the Palazzo Scaligeri at Verona. The chief objection to such projections in simple brickwork is that they too obviously imply a vertical joint or what seems a continuous vertical joint at the junction with the face of the wall. This is by no means a fatal objection, but, such as it is, it is evaded by the invention of quoins as constituents of a finishing member.

The simplest problems in the employment of stone quoins to accentuate angles and complete the framing in of a façade, are presented in constructions of pure masonry. In such a case where a wall presents stretchers uniformly, the alternate longer quoin will overlap half a stretcher, but what additional length is conceded to it must depend on various considerations of propriety and taste. It may only be as long as the ordinary stretcher, and left to assert individuality by exceptional projection beyond the plane of the wall; but in this case the shorter quoin will be restricted to half the length of the same modulus. Whether this is objectionable will depend in some degree on the form of the stretcher,—the proportion of its height to its length; and its absolute dimensions will also have to be taken into account. In such construction the breadth of the shorter quoin will inevitably carry a suggestion of the thickness given to the wall of which it is the only evidence. The effect, therefore, can scarcely but be unfortunate if its absolute dimensions are mean and insufficient in this relation. If again it is exactly square, which it will be if, under the supposition, the proportion of the stretcher is a double square, another inaptness will accrue. The sense of repose which it is the very purpose of a border of quoins to conciliate, will be disturbed when it appears that they would not pile independently even as securely as the ordinary blocks. The eye will insist on pausing upon the quoins in their relation to each other, and no boldness of projection will compensate for even a vague suggestion of liability to topple.

This suggestion will be still more readily provoked if, while the shorter quoin presents an exact square, the longer above it is either shorter or much longer than a double square. If it is much longer it will suggest overbalance, and if shorter it will contribute to the instablity of slenderness. Therefore it is that it will be found to be, that it will be observed to be, for the interests of repose by those who will have regard to executed examples, that the shorter quoin should be somewhat longer than the ordinary stretcher, and the longer have but moderate projection beyond it. But it will be observed that the projection of the longer quoin in relation to its height will ultimately be governed by the dimensions of the ordinary stretcher, of which it has to cover exactly half, unless a variation is made at this point, which is not desirable. In consequence study, it would seem, has to be given in the first instance to the most effective proportions of the system of quoins before the oblong face of the masonry blocks is resolved on, even if, upon making comparisons, certain concession may seem desirable from either side.

In the ordinary process of masonry development, the quoin, which is short in front, is long on the return; and in like manner the long quoin in front shows as short on the other side. Some effects result which are uncomfortable, that is, to recur to our primary consideration, which vitiate repose. It is appropriate that a long quoin should be the base of the system, but the propriety holds good for both sides of the angle of the building; again, it has the better effect for a short quoin to be surmounted by a frieze or a broad string-course, and again, the effect is secured on one side, only to be visibly forfeited close at hand on the other.

This mischief is at its minimum when even the shorter quoin has a length considerably in excess of its height, but, even so, it is far from being obliterated; the reversal of sequence when the quoins are viewed from the angle is most disturbing, and especially where upon one face a plat-band or a frieze of necessity rests upon a short quoin or a short quoin is immediately superimposed upon a base line. This difficulty, of course, does not occur when the return of the wall is masked and the quoins are only visible on one face, but otherwise a difficulty it is, which will have its effect in a certain unsettlement of the desirable impression of perfect coherence and solidity, whether the spectator, whose satisfaction is thereby reduced, may be aware or not of the seriousness of his loss, or of the quarter in which the peccant incongruity originates. The remedy obviously lies in the direction of an exact duplication, of making the longer and shorter quoins on one side continuous with longer and shorter on the other; then the system on both sides of the angle will rise from a long quoin, and so also conclude as may be desired. It is needless to say that a variety of proportionate adjustments will be required to secure the harmonious combination of such a system with the general design and also with other details of construction; these cannot be entered upon here where the immediate concern is the discussion, not of practice, but of principles, that practice will do well to be observant of, for it will have to acknowledge sooner or later that they are its masters. It may be observed, however, that the same propriety will control the dimensions of the angle blocks of simple rusticated masonry without quoins, the longer showing as longer, and the shorter as shorter on both faces.

The predominant form of the quoin is liable to fall into comparison spontaneously with that of the general façade, or more immediately of a special story,—a direct contradiction as between a very square general outline of façade or story, and a very flat oblong of the quoin, or *vice versâ*, will assuredly tell us a violent discord. It is more important to observe this from the relation which we have seen between proportions of quoins and of the blocks of the general masonry; it is manifest at a glance how the long front of the Pitti Palace is harmonised by the long proportions of the vast stones, not only of the colossal basement, but of the general construction. The majestic Farnese Palace at Rome exemplifies the admirable effect obtainable by the successive variation of quoin, both in magnitude and proportional forms between basement and upper stories. We observe even the refinement of gradually reducing the thickness of the quoins of the lower story as they approach its cornice-like string-course, as if on the principle of the diminution of a column; a transition is thus softened to the reduced system of quoins of the story above, but the licence requires justification; it would scarcely be agreeable when masses less imposing were to be dealt with.

The variation of the heights of quoins from from one story to another involves corresponding change in the courses of masonry, which on their part are consistently reduced in the case of very large structures, in harmony with the reduced height of the stories. By this means quoins may give distinct yet gracefully reserved intimation of what is more forcibly pronounced, and still most effectively in the entirely rusticated façades of several of the finest palaces at Florence.

The combination of the stone quoin with brickwork has led to many an architectural misadventure. Here, of course, the height of a particular course exercises none of the control which it asserts in the case of masonry. The question merely arises,—How many courses of bricks shall be responded to by the height of a quoin? There is no escape from the primary difficulty that no true bond can be expressed or understood between the quoins and the brickwork; proper union or tie is vitiated by the continuous joint through several courses where the bricks meet the deeper masonry. This fault is aggravated by every increase in the number of the intermediate courses, and at the same time the visible increase in the relative weight of the quoins makes the inconsistency of associating the two kinds of work still more palpable. The very strength of the masonry causes the brickwork to appear flimsy by contrast, and liable to the same catastrophe which is proverbially threatened by a new and strong patch upon a weak material. When this objectionableness is obviated in the best way, and to the greatest extent, that the case admits of, the only resource for helping out the harmony of the two constructions seems to lie in assigning a form to the quoin of which the proportions of height and length fall into some easy gradation with those of the particular type of brick which is associated with it. A brick of a somewhat, or more than somewhat, flatter proportion than is usually employed, would be favourable to that degree of flatness in the quoin which would seem to give it best hold on the brickwork; such a brick, it may be added, would give a degree of refinement to the general work which strikes us on a visit to some Continental cities, —even to the Hague, and of which the explanation, at first enigmatical, can never escape our regard after it has once been divined.

THE RESPONSIBILITY OF BUILDING OWNERS FOR THE NEGLIGENCE OF THE CONTRACTORS' WORKMEN.

WHEN the well-known case of Bower *v.* Peate was decided in 1876 it undoubtedly introduced a most important exception to the well-known legal principle, that if a man employs a competent contractor to do work for him who, by the negligent way in which the work is done, causes injury to the property of a third person, he is not liable. For, as probably many of our readers are aware, the exception which was introduced by Bower *v.* Peate was to the effect that one who orders work to be executed from which, in the natural course of things, injurious consequences to his neighbour must be expected to arise, is bound to see that proper care is taken in the execution of the work, and he will be liable for want of such proper care. This exception has seriously increased the responsibilities of many persons who order work to be done which is at all liable to injure adjoining property, and considering the nature of much town work, it requires no unusual knowledge to understand the danger incurred by many innocent persons. A recent case, one which we have chronicled briefly in our columns, is now reported in the regular law reports, and it shows that the courts have made this exception wider than it was under the previous decision. We are referring to the case of Percival *v.* Hughes, 51 *Law Journal* Reports, Queen's Bench Division, p. 388, which contains an important judgment of the Court of Appeal. The main effect of that decision is to apply the exception contained in Bower *v.* Peate to the whole job, so to speak, on which the contractor is employed, and not to those parts of it which are clearly likely to cause injury to the property of another if great care and precaution be not taken. Of course, if A and B are two adjoining house-owners, and C, a competent contractor, is employed by B to do work on, we will say, the foundations of the house, and his workmen are so careless that they injure A's property, it is exceedingly hard upon B that he should have to pay damages if A sues him. C is more properly the person to bear the consequences of this injury; yet, again, C may say that having obtained the services of a competent workman, it is equally hard upon him to pay A's losses, so that, in fact, the whole question is one which involves loss to one of three innocent parties,—A, B, and C. The importance of the increased width of the exception is made more clear by showing how the rule was applied to the facts of this particular case. Mr. Hughes desired to rebuild his house, and for that purpose employed a competent architect and a competent builder. The new house was to be one story higher and one lower than the old house. Before the completion of the works, the workmen, in order to erect a staircase, cut into the party-wall of the house of a third person, and injury was thereby caused to the plaintiff's house. The workmen, in thus cutting into the party-wall were acting contrary to orders which had been given to them. Now the operation which, in itself, was likely to cause danger, was taking down the old house and excavating below the adjoining houses: in regard to this proper precautions had been taken, and this part of the work had been safely performed. "Then," said Lord Justice Holker, who differed from the two other members of the Court, "there was nothing else which would produce danger to the plaintiff's house"; and he considered that, as the putting up the staircase was not, in itself, an operation at all hazardous to the plaintiff's property unless the workmen exceeded their duty, the exception of Bower *v.* Peate was not applicable. On the other hand, the majority of the Court decided that they must look and see what was the whole undertaking of the defendant; it was, in fact, to pull down the old house and to build up a new one. Some part of the work was admittedly hazardous, and therefore the defendant "would be liable for every act committed or omitted to be done during that period (*i.e.*, of the performance of the whole work), whether by the contractor and his servants or by himself."

As we have said, the determination of the question in any way must be a hardship to one of three innocent parties, and therefore, though we may think the decision hard upon the owner of the new house, it is only a hardship, which, if shifted from his shoulders, some one else would have to bear, for the workman, the actual negligent person, being a man of straw, is not worth suing. To consider the work as a whole will certainly, in many instances, prevent uncertainty as to who is to bear the loss of injuries caused immediately by careless workmen. But that the decision does make the law harder for the building owner no one can very well doubt; indeed, in large houses, what with liabilities for obscuring light and responsibilities for the acts of contractors' men when there is any danger to the property of a neighbour in the operations, the fate of the building owner is not particularly enviable. The neighbour, on the contrary, is in a better position, because he has a substantial person to obtain damages from, and not, as in many cases, a contractor who, on the threat of litigation, will probably threaten to go through the Bankruptcy Court, or, lastly, an impecunious workman. We may fairly suppose, in fact, that all such actions as these against the building owner are commenced when the contractor is unable to pay. The only consolation for the building owner is that he may make an agreement with the contractor that he will repay him all costs and expenses to which he may be put by the negligence of the workmen. No such agreement can, of course, prevent his neighbour from suing him for damages under the authority of these cases, but he may be able to recover over against the contractor, which may or may not turn out to be a valuable right.

THE HOUSE OF LORDS ON COMPENSATION FOR INJURIES TO LAND OR HOUSES.

THERE is probably no subject of what may be termed a legal nature which also is connected with the ownership of property, and more especially of buildings, of larger general interest than that of compensation for property compulsorily taken by the promoters of some industrial or public undertaking. There are few of our readers, we suppose, who have at all made their mark as architects or surveyors, who have not from time to time had to direct their attention to this subject, and many of them, we know, have had a good deal to do with such matters either as arbitrators, witnesses, or managers of the lay part of some compensation case. Taken as a whole, the general principles by which the question of compensation is governed are clear enough and have so little of legal technicality about them that most of those who have paid any attention to this subject have mastered the rules on which it is based. It is certainly not our intention, therefore, to write a treatise on compensation, but as a recent decision of the House of Lords has thrown a good deal of light upon one branch of this subject, and has reduced to order some decisions which were somewhat difficult to reconcile with each other, it may interest our readers if we call their attention to the case of the Caledonian Railway Company *v.* Walker's Trustees (Law Reports, 7, Appeal Cases, p. 259).

Let us, first of all, state the result of some previous decisions, each of which was given by the House of Lords. The first to be noticed is that usually known as Ogilvy's Case, or, more correctly speaking, the Caledonian Railway Company *v.* Ogilvy, which was decided in 1856. In that case Mr. Ogilvy considered that he was entitled to compensation for his property being injuriously affected, because, at a short distance from the entrance to his grounds the railway crossed an important public road on a level. But the communication between the property and the road was not cut off, and access would not be in the least prevented, except from one side, when the gates happened to be temporarily closed, owing to the passing of a train. Various complaints were also made of the inconvenience sure to arise from such matters as the noise of the passing trains. But the House of Lords did not consider that this was the subject of compensation: it was chiefly in the nature of a personal annoyance which Mr. Ogilvy would suffer, together with other passers by, and it was also a mere prospective liability. This decision was practically affirmed by Brand's case, or, rather, of the Hammersmith Railway Company *v.* Brand, in 1869, which decided that the authorised use of locomotives did not give rise to a claim for compensation. Then, in 1874, came Ricket's case, or more properly Ricket *v.* The Metropolitan Railway Company. In this instance Ricket was the owner of a public-house in Crawford-street, London, which was called by the extraordinary name of the "Pickled Egg." On the other side of the same street was the Clerkenwell Workhouse, a large block of buildings, and on the further side of it another street more or less parallel to Crawford-street, called Coppice-row. Between these two streets was a covered way, which ended very nearly opposite the Pickled Egg. Some other street was connected with Coppice-street, and many passengers came down there and debouched from the pathway right opposite the Pickled Egg, which apparently had great attraction for these wayfarers. For twenty months the carriageway in Coppice-row, and another street which led into it, was blocked up, but the footways were at all times open to passengers. However, Ricket complained not only of a temporary but of a permanent loss of custom, as persons had ceased to use this particular route after they had got out of the habit of so doing during the construction of the railway. But the House of Lords held that this was a mere loss of custom, and was not an injury to the house of Mr. Ricket,—injury to the custom of the Pickled Egg being held distinct from injury to the house as a building. Then, in 1874, came McCarthy's case, or the Metropolitan Board of Works *v.* McCarthy, which was briefly to this effect. Property had access to a highway in front and to the river in the rear. The highway by water was taken from the owner by reason of a permanent dock being placed between the building and the river. Here, however, the Lords held that the property was permanently and injuriously affected for whatever purpose it might be used, and, therefore, that compensation should be given on account of this injury. But it will be clear that there was a decided resemblance between Ogilvy's case and McCarthy's case, because in both the access to a property was interfered with. The judgment in the latter case when read *in extenso* makes the likeness between the principles underlying both cases more noticeable. We will now turn to the case which has lately engaged the attention of the lawsuit. Walker's Trustees possessed a property which had a frontage to Canal-street, Glasgow, and had by that street a direct, straight, and practically level access for all sorts of traffic to Eglinton-street, one of the main thoroughfares of the city. The works of the railway company cut off this direct access entirely, and a distant and more circuitous road, crossing the railway with rather a steep gradient, was substituted for it. These were the main facts upon which this case depended for the fact of another direct access having been made somewhat less convenient did not form one of the debateable points. The House of Lords decided that the railway company was bound to give compensation to the owner of the property in question as it was injuriously affected. Although there is a likeness to the previous Caledonian Railway case, there seems in all these cases, and especially this last one, to be one clear *ratio decidendi.* In this last case, and in McCarthy's case, the access by the particular route was absolutely taken away; it was impossible in either case for a person to approach the premises of the old and now obstructed road, to do so was an absolute impossibility. On the other hand, in Ricket's case, and also in Ogilvy's case, there was still the same channel of approach open, although not in so convenient a manner, there was no element of impassability, only one of inconvenience. This, therefore, seems a very material distinction between these classes of cases, and there therefore seems no reason why we should suppose that because a man may now certainly obtain compensation for the direct access to his property being cut off, even though he may reach it by a new and roundabout route, therefore that he can obtain compensation if there exists a temporary obstruction, such as a train passing over a level crossing. On the other hand, it is impossible not to perceive that such a thing as level crossing near a gentleman's front gate may materially diminish the value of his property, and, in fact, that the property is "injuriously affected." The passing of rails over a road is, however, not in itself an obstruction. Therefore, we again come, as it seems to us, to the element which is required to exist in order that a man, whether he be the owner of a house alone or land alone, may obtain compensation if a way to that property is interfered with. He must show that there is an actual obstruction, that the way itself cannot be used, and that it is not simply an inconvenience in the use of that way of which he complains, even though such inconvenience may naturally depreciate the value of his property. If the new way is, however, but very little longer, then this would simply be a reason why the amount of compensation to be awarded should be small.

THE PART PLAYED BY LOMBARD ARTISTS IN ROME.

AMONG the recently-published foreign artistic books referred to in these columns not long since, mention was made of Sig. Bertolotti's interesting study on the Lombard artists, architects, painters, sculptors, and others, who, during the active centuries of Italian art, worked in Rome ("Artisti Lombardi a Roma nei Secoli XV., XVI., XVII."). Sig. Bertolotti's book, the result of patient research in long unrevealed sources of information, is the continuation of a series of studies he has already published on the Belgian and Dutch, the sub-Alpine and the Sicilian artists who have each and collectively colonised, or aided to build up the Papal capital. Rome in this respect for centuries, has served as the gathering point of the artistic world. The Classic interest gathered round the Eternal City stored with its treasures of art, the religious significance attached to the residence of the Papacy, the sumptuous magnificence of the church afforded to the artists, not only of the peninsula, but of every nation, an almost unbounded field for their industry and study. Indeed, at one time it may be fairly said that no other city in the world contained within its walls so many artists. This peculiar *prestige* of the Papal capital has by no means died out, and Rome is still the sighed-for goal of every artistic student.[*]

Among the numerous artists employed in Rome, few,—especially among the architects,—have taken, during centuries, a more conspicuous place than the Lombards. Lombardy, as every one conversant with the story of architecture in Italy well knows, early possessed active schools, whose pupils we find scattered almost over the whole of Europe; the *magistri comacini* hold a high place in the history of architecture, and it was from the Lombard mountains and valleys that descended over Italy a crowd of artists who have left behind them the traces of their skill. By nature the Lombard,—and to this day he retains the character,—is industrious, active, hardy, and migratory. In Rome, where, during many centuries, the artistic activity was great, the Lombard colony was, at all times, important. Sig. Bertolotti has devoted his attention especially to this colony, and taking each branch of the artists, he lays before his readers the mass of information he has been able to gather relating to various Lombard architects, sculptors, painters, goldsmiths, *stuccatori*, *intagliatori*, *ebanisti*, bronze-casters, embroiderers, &c., employed in Rome from the fifteenth century,—previously to which information is unobtainable,—down to the close of the seventeenth century. Divided into the centuries, and then again into the various branches above mentioned, the work becomes to the antiquary, and as a work of reference, of much interest. To the general reader, however, Sig. Bertolotti's two volumes will scarcely be found to afford much that is entertaining. The author has gathered his materials, he tells us, largely from the religious legal and criminal registers, or, as we should now say, the police reports of the capital, and the lengthy minutes of examination, trials, assessments, quotations of wills, and so forth, somewhat tend to rob the work of the interest it would possess had it been arranged with more regard to literary exigencies. The author only claims to bring forward hitherto unpublished information with a view not only to drag from oblivion the names of a number of unknown artists, but to aid in the correction of the existing biographies of the more famous artists. In this direction, Signor Bertolotti has eminently fulfilled his task and merits the gratitude of all lovers of truth.

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[*] John Hoare, of Bath (the father of Prince Hoare, whose name is so intimately connected with the commencements of the Royal Academy), is generally considered as being the first English artist to visit Rome with a view to study; he, at least, was the first of a long line of English artists who have now for 150 years regularly colonised the Papal city.

It is an old story that artists in the past were far less sensitive as regards their work and position than they now are, and for some generations have been. One feature that is noticeable in all the early periods is the frequent mention as artisans and workmen, of individuals whom we should now term artists. Architects we find named in the accounts as simple masons, *muratori*; painters did not disdain to adorn with their brush the banners and the *cassoni* or marriage coffers of their employers; and sculptors we find designated as carvers, and so on. This feature, noticeable in English and French artistic history, we also meet with in Early Italian art.

It is practically with the fifteenth century, that fecund period of archæological study, during the pontificate of the learned and cultivated Nicholas V. that commences the regular migration of Lombard artists to Rome. Martin V. and Eugene IV. had prepared the way for the architectural activity of the succeeding reigns which a period of peace further aided. The Romans, it will be noticed, have never distinguished themselves in the walks of art. When, therefore, the capital, in the artistic zeal of the Renaissance popes, was re-built and decorated, it is Florentine and Lombard artists who will be met with as the directors and workmen. The Tuscans, as nearest Rome, are the first in the field, but we soon find the Lombard element prevailing. Trained in the sturdy traditions of their ancestors, who, at the birth of art in Italy, had learnt the secrets of working in stone and marble, it was but natural that it was to them that the inhabitants of the plain turned when in want of artists and artisans. The secrets of their art, transmitted from generation to generation, the Lombard *comaschi*, bore to Rome, and out of the ranks of the humble *muratori* and *scalpellini* many an artist sprang, modestly content, however, still to be termed nothing but a master-mason or stone-carver. In the fifteenth century we often meet in the accounts rendered with references to master-masons, master-*carpentarii* or carpenters, often none other than distinguished architects and sculptors. During the busy fifteenth and sixteenth centuries it is especially as architects that we find the Lombards employed, and Sig. Bertolotti gives us a lengthy list of names he has met with in his researches in connexion with the building and restoration of St. Peter's, the Vatican, the Campidoglio, the castle of Sant' Angelo, and a host of other important works in the papal capital, bridges, fountains, roads, &c. We even find the architects employed during siege time as *bombardieri* and the sculptors' talents turned to the production of stone balls.*

Throughout this and the following century the custom is invariable,—and the accounts reproduced by Sig. Bertolotti curiously prove the fact,—for the architects to employ the materials of the Classic buildings for their modern works. Antique stone and marble were, as is well known, used by the sculptors and *intagliatori*, who found that to drag their material across the mountains was needless, when easily-worked quarries existed so near. In one year alone Nicholas V.,—perhaps one of the most devoted lovers of antiquity and learning of the whole Renaissance period,—dragged from the Colosseum, we learn, 2,500 cartloads of travertine and tufa; and Sig. Bertolotti further gives us a number of lengthy extracts from the papal registers. Thus we meet with constant reference to *chava a Chuliseo; chava a Templum pacis*, &c. In spite of the prohibition of Pius II.,—the worthy and learned friend of the artists, Piccolomini,—the apostolic chamber continued, we see, their pillage. The Colosseum, the Thermes of Caracalla, Diocletian, and Constantine, were the chief field; and, in the time of Alexander Borgia, the excavation and demolition of the antique buildings were regularly farmed out. In this busy fifteenth century the Lombard artists at Rome not only distinguished themselves as architects and sculptors, but as goldsmiths, armourers,—Brescia was famous for its arms,—its *morsari* or *loriners*, as we should term them, and its embroiderers.

The pontificate of Sixtus V. forms an epoch in the architectural history of Rome, and busy times, indeed, were they for the artists in the employ of the Pope and his court. Great as were the overwhelming figures of the sixteenth century, the Lombard artistic colony again stands out conspicuously, headed by Domenico Fontana, whose fame and fortune only further increased the already large body of Lombard artists resident in the city. The Fontana family, remarks Sig. Bertolotti, would in themselves furnish ample material for a book; but their fame being so well established, our author, in accordance with his plan, proceeds only to give us some so far unpublished incidents and facts. Among the accounts are given that for the transport of the famous *guglia*, or obelisk of St. Peter's; that for the moving of the equally famous horses on Monte Cavallo, and the restoration of the column of Antonine; the total of the expenditure made by the architect for Sixtus V. being set down as over a million scudi.

Of Carlo Maderno,—we pick out of the interminable list of unknown names given by the author, those most familiar,—Signor Bertolotti finds little new to tell us: "*troppo fece in Roma*," he piquantly remarks: "*e quasi nulla è ignoto*"; "he produced too much in Rome, and almost nothing of his is unknown." Giacomo della Porta, Signor Bertolotti considers as of Lombard origin. The long chapter filled with its somewhat dry details devoted to the Lombard architects of the sixteenth century serves, certainly, to show how largely Rome is indebted for its architectural glories to the Lombards, in spite of the overshadowing names that have left their mark on the wonderful century, Peruzzi, San Michele, Giulio Romano, Sansovino, Palladio, Michelangelo, Vignola, Vasari, Ammanati, and so many others.

Of the Lombard painters, some interesting notices are supplied, but the names he gives are known but to the diligent student of Italian art. The sculptors present a stronger contingent. They appear to have formed part of the Roman Academy of St. Luke, though it is doubtless to that sad misunderstanding that so often exists between the different branches of the arts that we find before long a separate guild of sculptors.*

Among the goldsmiths,—the Lombards had long earned a high reputation for their skill in this art,—Benvenuto Cellini, introduced as a great star round whom are grouped a whole host of Lombard workers, serves the author to give some most interesting particulars respecting the artist; among these, the very lengthy but invaluable inventory of his *bottega* or shop. The Via del Pellegrino,—near the superb and familiar palace of the Cancelleria,—was the headquarters of the goldsmiths just as at the same time with us Goldsmiths'-row, Cheapside, or in Paris the Quai des Orfèvres, near the Pont Neuf, or in Florence the Ponte Vecchio. Even to this moment there still hang on in the Via del Pellegrino a few goldsmiths who keep alive the traditions of the old days. Sig. Bertolotti has much to tell us of Caradosso, a Lombard goldsmith spoken of not only by Cellini but also by Vasari, and a great favourite of those three typical popes, Julius II., Leo X., and Clement VII.; while mention is also made of a band of Lombard goldsmiths who worked in Spain in the sixteenth century. The chapter is closed by a curious account of the famous and symbolic *rosa aurea*, or golden rose, the sacred gift which the popes solemnly blessed on the fourth Sunday in Lent, and then sent to the sovereigns who were their allies. From originally a simple piece of goldsmith's work the symbol, it appears, grew with centuries into a costly work of art. Clement VII., it may be remembered, sent in 1524 one of these golden roses to Henry VIII.*

Many details are given by Signor Bertolotti of the Lombard *intarsiatori* and *ebanisti*,—Lombardy, it appears, was early famous for its workers in inlaid wood,—*spadari*, sword-makers, cutlers, and armourers, in speaking of whom the author quotes a lengthy account of the manufacture by a Cremonese of a regular *mitrai leuse*, ordered by Pius V. to fight against the Turks; further details are given of the Lombard typographers, booksellers, and binders. Of the Lombard embroiderers and weavers, Signor Bertolotti has much to tell us; the many churches and their wealth gave full employment to a large number of hands, notwithstanding that much of the work was of Spanish, French, and Flemish origin. The weaving and working of silk, it must be remembered, was introduced into Lombardy early in the fourteenth century; Sixtus V. having introduced it into Rome only in the sixteenth century with the weaving of wool.

In the seventeenth century we meet among the Lombard artists with Giovanna Fontana, and again with the Maderno family in connexion with numerous engineering works, while a long and curious notice is given to Longhi, members of a family famous as architects,—who occupied, it appears, in 1611 the house of Michelangelo. Many documents are given relating to the unfortunate Francesco Borromini who, it will be remembered, ended his life by his own hand. In this active seventeenth century the number of churches and palaces, the work of Lombard architects, is wonderful; though architecture is in full decadence, it is impossible to deny the talent of the artists. The Fontana, Maderno, Borromini, Longhi, and Ponzio were architects who hold a high place in history; had they but lived a century earlier they would have been really great; they serve alone, however, to show the decadence, by the exaggeration of the beautiful.

Among the Lombard painters Michelangelo da Caravaggio holds the first place in the seventeenth century, and a lengthy account is given of him, chiefly made up of very disconnected quotations from lawsuits and other legal documents, and mention is made among other artists, such as Francesco Mola, Serondine, Parone, Stella, and Sacchi, of the sculptor Ercole Ferrata, whose very lengthy will is here printed *in extenso*. As in the previous century the goldsmiths continue the reputation of their predecessors, though scarcely in the same direction; the Via del Pellegrino is still crowded with Lombards, and a long list of names is given by Sig. Bertolotti, as also of the armourers, embroiderers, and other artists who still kept alive the Lombard fame as skilled artisans.

In these three centuries in which we have seen them, the Lombard colony had grown wealthy, and possessed several corporations, numerous churches, and more than one hospital. As builders, masons, and architects' assistants, they had almost enjoyed a monopoly, and from their number more than one artist had worthily taken his place by the side of the great names which make the fifteenth and sixteenth centuries the golden age of Italian art; as artisans the Lombards had held high the reputation they for centuries had enjoyed.

Signor Bertolotti, with the patience of a Benedictine, has gathered a mass of information which cannot fail, in years to come, to constitute to the curious student a most interesting source of reference. The two volumes are supplied with what renders almost any book valuable,—an exemplary index. How many interesting names and facts could be rescued from oblivion, if some English author as industrious as Signor Bertolotti would bring to light from the archives of the great cathedrals and other buildings, some notice of the clerks of the works, master masons, and other assistants to the great architects,—those non-commissioned officers, the back-bone of the army of art, who have erected the glorious creations that exist in our country.

Desks and School Furniture.—The desks and other school furniture required at the Harpur Trust Schools for Girls, Bedford, and the Princess Helena College, Ealing, were supplied by Messrs. G. M. Hammer & Co., Strand.

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* The peaceful architectural use that has been made of these military stone balls is well known to the profession, and it would not be difficult to trace their first application to decorative purposes down to the present day, when we see their imitations adorning the gateways of our modern "Queen Anne" houses. The villas of Italy and the châteaux of France will be frequently found adorned with these rude implements of war.

* Down to recent days the sculptor, John Gibson, almost boasted that he knew "nothing about painting."

* The last golden rose was, if we are not mistaken, recently sent to a great personage in America.

CONTINENTAL GATHERINGS.

Those who visit Paris this autumn, and who may remember the gay French capital before the sad days of the war, will see again on its old site the Hôtel de Ville; if not the same characteristic Renaissance pile which, for 300 years, had been the witness of so many scenes, joyous and painful, in French history, a building professedly in the same style as the Italian Boccador's design, though larger and unmistakably modern. The exterior of the building is, as we have more than once announced in these pages, now completed, and a few days before the great July fête when the new building was inaugurated, the last scaffold-pole, with a tricolor flag attached to it, was removed amidst the cheers of the whole body of workmen. Once again the Parisians have their town-hall, and the destruction of their Hôtel de Ville is merely looked upon as "an interruption in its existence." The admirably representative nature of the banquet held on the occasion of the inauguration of the building shows how thoroughly the French municipality understands that their prosperity is closely knit up with the various sections of the community; in addition to the guests usual on such occasions, the prefect invited a member of each of the numerous trades which had assisted in the re-building of the Hôtel de Ville, a delegate from the trades-committees, a medical student from the hospitals, a member of the police force, a fireman, an *Invalide*, or, as we should say, a Chelsea pensioner, and a workhouse inmate. Somewhat different this from a London city banquet. As we have more than once reminded our readers, the Paris Hôtel de Ville is not yet completed, nor will it be for two years to come. The whole interior remains yet to be finished.

Although it has more than once been announced that the ruins of the Tuileries were to be removed, the final sanction of the French Chambers has only just been given. It is now decided that so sad a remembrance of the days of the Commune shall no longer remain in the heart of Paris. There is small ground for archæological regret at this step. Very little remained of the palace which Pierre Lescot built for Catherine de Medici, while in historic memories, familiar as is the name of the Tuileries, in its three centuries of existence, it perhaps owes its chief interest to its connexion with the latter days of Louis XVI., and even more to the late Emperor Napoleon. At other times it has been singularly deserted by royalty. The little-known early connexion of the spot, when the tileries were still worked which gave the palace its name, with the patient efforts of the Protestant potter, Palissy, add, perhaps, as great an interest to the site as any that history has succeeded in weaving round the name of the palace that will soon be but a memory of the past.

A memory somewhat more distant in the story of the French capital has of late been revived. In digging the foundations of the new Post-office the men came upon a mass of remains of animals belonging to what geologically is known as the Quarternary period. M. Guadet, the architect, at once handed over these relics to the Natural History Museum, and they are found to have belonged to the horse (*Equus caballus*), the deer (*Cervus elephas*), and the mammoth (*Elephas primigenius*). Though of the utmost interest, the find is no novelty in Paris. Cuvier, the French Owen, discovered in Paris his famous mammoth; and elsewhere in the capital remains have from time to time been brought to light of the prehistoric times when marshes and forests covered the site of modern Paris. At the present moment it is curious to light upon the relics of so primitive a period.

Some time since reference was made in these pages to the Church of the Sacré Cœur being erected at Montmartre. The French Chamber have, it appears, prohibited the continuance of the works, which have now reached a very forward state. The matter, unfortunately is complicated with religious and political questions in a manner such as can be little understood in this country. The pecuniary situation of the so-called "Vœu National" is satisfactory in spite of the enormous expenses that have had to be met. Hard on ten millions of francs (400,000*l*.) have been so far devoted to the foundations alone. When the church was first projected the nature of the ground was unknown, and it was proposed that the building should rest on a huge bed of concrete; no sooner, however, had the work commenced, than the soil, composed of sand, clay, and shells, was found to be entirely unsuited to support the weight of the proposed building. It was not till a depth of considerably over 150 ft. had been bored that solid rock was struck. Eighty-eight large pillars, some 10 ft. to 15 ft. square, were then built to serve as the foundation, the whole representing over 30,000 cubic yards of masonry. Hard upon three years were occupied in this work,—terminated in 1878; since then these pillars have been united by triple arches, and on this solid foundation the work progressed, the walls now having risen about 40 ft.; the total height, according to the original plan, was to have been about 230 ft. Now that the Government has prohibited the continuance of the works, it is not easy to see how the matter will be terminated; but the great difficulty as regards the foundations having been overcome, the building, of course, may be turned to any use that may be thought fitter than that on which the clerical party had determined. It has been illustrated in these pages.

On the meeting at Geneva of the Fourth International Congress of Hygiene, an exhibition, we hear, will be held in September next. All the various inventions and appliances relating to the important question of hygiene will be represented, and we may expect that a further advance may be made in the progress of a science, to the teachings of which in all its bearings too much attention cannot be paid.

Not long since, at Rouen, an interesting lecture was delivered by Dr. Napias on the "Hygiene of the Workshop." After reviewing in turn the very different and often dangerous surroundings in which the workman has so constantly to exist, the lecturer very properly drew attention to the fact that he has it in his power, apart from the protection that the laws and sanitary science give him, largely to reduce the dangers to which he is subject. Two most important features in the question the lecturer considered to be,—first, the supply of adequate industrial dwellings to supersede the too often unhealthy houses of the workman; and, secondly,—a point which can alone be hoped to be corrected by the spread of education,—the vice of excessive drinking, subtilely robbing the workman not only of his power of saving, but of the very skill of hand on which his living and happiness depend.

An archæological discovery of more than usual interest has been recently made in Poitou, near Sanxay, of a Gallo-Roman balneary station. The ruins, covering an area of over twelve acres, consist of the remains of a temple, a theatre, a number of baths, and accompanying hostelries; in fact, a classic watering-place, with the usual concomitants of pump-room, assembly-rooms, and hotels, as we should now say. The first discovery made was of an aqueduct, traced for over a mile to the ruins. Our informant, the *Journal des Débats*, states the temple to be one of the largest known,—meaning, we presume, in France. Adjoining the temple are the bath-houses, extending considerably over a length of 100 yards, and comprising the usual accommodation, hot-air rooms, covered walks, gardens, and porticos. On the further bank of the river Vanne the remains of the theatre have been brought to light, backed up, as is customary, by the hill. A large number of Roman and Gaulish coins have been found. It is presumed that the buildings belong to the period of the Antonines,—second century before the Christian era,—and that the station was destroyed during the invasion of the Visigoths in the fifth century. Conducted under the Curator of the Museum of the Société des Antiquaries de l'Ouest, M. de la Croix, we may expect that the excavations will yield much interesting information.

From a somewhat more distant Roman colony, the Dobroudjka, a recent archæological commission, despatched by the Austrian Government, has been able to enrich the Bukarest Museum with a large number of most interesting relics. The delta formed by the Danube in the north-east of Bulgaria, though fertile in some parts, has never been thoroughly explored, in spite of the classic interest attached to the spot. To Tomos, the Kussendjé of to-day, it was that Ovid was exiled, it will be remembered, and here he wrote his "Tristia," and those abject "Epistles from Pontus," that show how severely the cultured poet suffered during his absence from Rome. The district,—a very unhealthy one,—is covered, it appears, with Roman remains, which the Austrian commission to which we have referred has thoroughly explored.

Though archæology has never found any opponents in the ranks of refinement, there are those who not unjustly deplore its sometimes exclusive influence. In the study of architecture, while a wide acquaintance with the work of the past is absolutely essential, too lengthy a devotion to its study, it is claimed by some, is injurious to the development of that cultivated originality which is the spirit of all art. Deploring not so much the prominence of the more technical archæological studies in this year's architectural exhibition at the *Salon*, as the marked eccentricity of so many of the "original" designs, our contemporary *L'Art* has recently been expressing its views on the subject. "We certainly seem to understand the utilisation of the past in a somewhat curious manner. Almost better, perhaps, completely to forget it if such are the results obtained from its study; one would be tempted almost to exclaim, with a professor of the École des Beaux Arts, in a lecture recently delivered by him, 'our enemy is archæology.' So far, however, from this being the case, the evil lies in our ignorance of what our predecessors have done, and this deficiency is daily becoming more evident in the clumsy and unconscious use made of the forms of the past. Thus, in France, Greek is now fixed on as the style suited for law courts and such buildings, Roman for municipal buildings, Renaissance for our theatres, *hôtels-de-ville* and private houses, Gothic for our churches, and all without respect for principles, without the slightest regard to climate or the nature of the materials employed. It would seem to be time that the State, which has already shown a warm interest in the encouragement of the industrial arts, should recognise that their inferiority is in great part due to the insufficiency of the education given in architecture, the influence of which for good and for bad has at all times been, and is, very considerable on all the productions of contemporary art. The supporters of the existing system are warm in its defence, and point to the numerous pupils, French and foreign, who crowd the benches of the École, but the result obtained is the most important question. Do our modern houses and edifices generally supply our requirements? and are they not from almost every point of view,—excepting in rare cases,—inferior to those of the past? and do we profit as we should do by our study of the works of our predecessors? Scarcely. Perhaps it would be better to admit this than allow ourselves to be blinded by the facts." We are afraid that the strictures of the writer are only too well founded.

The publication known as the *Deutsches Kunstler Jahrbuch* for the current year affords some interesting information respecting art matters in Germany. Such works, like our own "Year-book of Art" and the corresponding French "L'Année Artistique," are growing, as time passes on, most invaluable means of comparison and sources of reference. The German "Year-book" is indeed what its title indicates, a statistical handbook for art-matters generally. A review is given of the whole archæological work of the year, the discoveries and purchases made, the buildings restored,—Ulm, Aix-la-Chapelle, and Strasburg cathedrals, most important items,—the list of the various academies, schools, societies, not alone of Germany, but of Austria and Switzerland. An interesting account is given of the Imperial German Archæological Institute founded in Rome now over fifty years ago, and which has, as our readers well know, afforded through its admirable publications so many interesting acquisitions to our knowledge of classic art and existence. The Institute, in addition to its reports published in Italian and German, has no fewer than five annual bursaries, each of the value of 150*l*. The "Year-book" further gives a complete and detailed list of the public collections of Germany, not alone those of Dresden, Munich, and the capital, but of the smallest towns. We learn that there exist nine superior technical art-schools at Aix-la-Chapelle, Berlin, Brunswick, Darmstadt, Dresden, Hanover, Carlsruhe, Munich, and Stuttgart, schools in which the pupils are instructed in the most complete manner as architects, engineers, chemists, &c. To the Academy of Fine Arts at Berlin a lengthy description is devoted; the educational establishment is composed of the *ateliers* (as in France), the Academy properly so-called, and the schools.

There are, it appears, five *ateliers*, for historical painting, *genre*, landscape, engraving, and sculpture; the Academy accommodates nearly 250 pupils; the schools, of course, resemble greatly those of our own Academy. After Berlin comes the Academy of Dresden, which accommodates about 130 pupils; then Düsseldorf, with about 150 pupils; Munich accommodates hard on 400 pupils, standing high among the art-educational cities of the world. A feature to be observed in Germany is the important position assigned in the universities to art education. In the twenty-one universities spoken of in Herr Springer's work, twenty-three courses alone are devoted to classic archæology, not including Egyptian archæology, and twenty-one other courses are devoted to the history of art and æsthetics. The year-book displays a goodly list of art societies, many consisting of several hundred members; that at Cassel numbers over 900 members. The societies for the encouragement of art are especially noticeable; Herr Springer mentions eighty alone, and all spending liberally annual sums in the purchase of works of art; thirteen societies are connected with the decorative arts, and as a last detail, twenty-two societies represent the interests of the architects and engineers. Perhaps the chief feature to be gathered from such a work as this is the evidence of the absence in Germany of that centralising and clique-ish influence which is so noticeable in our country. We see several cities, such as Munich and Dresden, possessing art institutions superior even to those of the capital, while throughout the country in innumerable little towns, there exist active and influential societies which, in the true spirit of friendly co-operation and good-fellowship, foster and keep alive in every corner of the Empire an interest in the refining pursuits of art and archæology.

THE OAK IN HISTORY, ART, AND HANDICRAFT.[*]

In continuation of our subject, and before entering into some necessary technical details of a practically useful character in respect to the qualities of the oak as a timber, and the value of the tree in the supply of a number of commercial wants, we will glance back at a few more matters of historical interest. Our British ancestors, builders, ship-builders, and implement makers, appear to have had a good knowledge of the value and properties of the oak and other building timber, whether intended for uses under ground and water or above both. If our builders and early carpenters lacked a knowledge of physics and chemistry, or, in other words, scientific information, their constructive ingenuity in framing timber, as well as in cutting and building with stone, proves that they were not deficient in a fair knowledge of geometry, the wear and tear of materials, and its behaviour under various conditions, including pressure, strain, and the effect of the atmosphere and time. In some instances, perhaps several, they erred in their practice on the right side by using a plenitude of material. In principal, king-post, tie-beam, hammer-beam, truss, particularly in roofs where a great span was involved, what is known as camber, sag, twist, and leverage, under varying conditions, were attended to. The oak scantling was not spared either in depth or thickness, and solid material was put in without making up by patching or stuck-on pieces, save in the special instance of ornamentation. Native oak timber was in abundance in the so-called Middle Ages, and at a much later date. When the necessities of ship-building, with other home needs, began in the thinning of our English woods and forests in the seventeenth century, we find that Ireland in some of her districts was looked to for a probable supply of oak in addition to that obtained from foreign sources. During the civil wars in Ireland between William III. and James II., we find in a scarce work, written by George Story, a chaplain who accompanied one of William's regiments, that two commissioners whose names are mentioned, were appointed by the king to proceed to Ireland and inspect certain oak woods in the neighbouring counties to Dublin, with a view to the utilisation of the timber for ship-building. It appears also that Ireland, from an early date, contributed oak to England and some Continental countries for building uses. More than one authority mention that Irish oak was supplied for Westminster Hall, the Old Shire Hall, Chester, some colleges and halls at Oxford, and the Stadthouse at Amsterdam. Whether it be Irish or English oak that was framed into the roof of Westminster Hall or not, there can be little doubt of it being British carpentry, and a magnificent specimen of true geometrical handicraft, perhaps the best existing specimen in the British Islands. This Westminster hammerbeam roof is a technical study for all conscientious carpenters and builders, standing securely in its beauty after four centuries and upwards of duration. This roof illustrates the property of the triangle, showing that while the lengths of the sides remain the same the angles are unchangeable. All the pieces of timber here are arranged to form the sides of triangles, and consequently all the joints are fixed and immovable. There are several other fine open-timbered oak roofs in this country open to the thorough inspection of all critics, for the builders or workmen who erected them would be ashamed to conceal their handiwork, and scorned to hide it with plastered ceilings.

In the ancient Celtic Brehon Code there is a number of important regulations in regard to useful timber trees, the oak being the first mentioned. These Brehon laws, it may be mentioned, remained, until quite recently, little known, though occasionally referred to, through the difficult archaic character in which they were written. By the assistance of the Government they are now nearly as a whole before the public, and their value in various ways is acknowledged and undeniable. By the Brehon Code, trespass, as well as serious crimes, was not met by capital punishment, but by a system of erics or forfeitures in cattle. Reliable evidence is afforded by these laws concerning the several kinds of trees cultivated or known by the early Celtic race. The timber trespasses included the cutting down of timber trees, designated *arigh* timber, *athar* timber, *fogla* timber, and *losa* timber. The first-named division included oak, hazel, holly, yew, Indian pine, and apple. Five cows were the penalty exacted,—yearling cow-calves,—for cutting the limbs, and heifers for cutting the branches. The second division included alder, willow, hawthorn, quickbeam, birch, elm (probably wych elm). A cow was forfeited for each tree and a heifer for the branches. The third division included blackthorn (*i.e.* sloe) elder, spindle-tree, white hazel, and aspen. The trespass in respect to these trees was a forfeit of a heifer for each. The fourth division, or *losa* timber, went under the denomination of firewood, including such plants and shrubs as fern, furze, briar, heath, ivy, reeds, and thornbush, a fine being exacted for each. We see by these regulations that the Brehons promulgated laws to protect ornamental as well as useful trees. No doubt some of the important personages who had an influence in forming these timber laws, like our modern landocracy, knew well how to protect the rights of their own properties from the trespass of the more common folk. The Israelites, as may be seen in Deuteronomy, are ordered not to employ fruit trees in sieges, "only trees which thou knowest that they be not trees for meat thou shalt destroy, and cut them down; and thou shalt build bulwarks against the city that maketh war with thee, until it be subdued." There is certainly no small amount of evidence that points to the Eastern or Aryan origin of the Celtic race and language, and to worship and customs, bespeaking the same origin once obtaining among the early Celts. The Greeks never separated the hamadryad from her cœval oak, and our British historians never dis-associated our mysterious Druids from their favourite groves of oak.

If it was necessary, hundreds of instances of a historic character could be cited in respect to the esteem in which the oak has been held in Britain since the Roman occupation down to a recent date, and of the various uses to which the native-grown wood has been applied in the industrial arts. From the first building of London Bridge on through several centuries, the old City Fathers were careful to keep in stock a good supply of native oak for the works of the City in building and repairs. One instance may be quoted here of more than ordinary note. In an inventory of the stores at the old Bridge House, London Bridge, in the 24th Edward III., 1350, we have an enumeration of several building materials, and among the rest,—"400 great pieces of oak timber, value 40d. by the piece, making 100 marks. Also, a pile of timber, lying in the garden close adjoining to the water of the Thames, valued at 20 marks. Also, timber for 14 shops, fully wrought and framed for immediate building, 36*l*. Also, divers pieces of timber lying in various places in the said court, valued at 19*l*. 6s. 8d. Also, 120 pieces of elm, for piles, at 2s. the piece, 12*l*." It is also worthy of note at this early date that Portland stone was in use in London, and a large quantity of it was in the above-mentioned stores, "hand-worked and squared." It would appear, however, at this early date there were also exports of deal or Baltic timber, if the word *estrichesborde* signifies timber, from the Eastern countries. Since man first endeavoured to convey his thoughts or to register them in some symbolic or written character, the use of tablets of wood and the prepared inner bark of trees have been used as a writing material, and the oak, wood and bark, have both been pressed into service, as at a later date in the wood blocks for printing and pictorial illustrations. It is a singular fact that the most ancient form of Gaelic or Irish character, the names of the letters have in each case the names of trees. The Ogham alphabet is called *beithluisnion*, from the name of the first two letters, *beith* signifying a birch-tree, and *luis* the mountain-ash. It is conjectured by some that the names of the letters were given to the trees, and not the names of the trees to the letters. It is remarkable that the names of the trees and the letters coincide, and that all the trees in this old alphabet are indigenous to Ireland. The name of the oak in Irish is *duir* or *doire*, and the county of Derry (*i.e.*, the modern Londonderry) is derived from the Irish word signifying "the place of oaks," the country having been anciently thickly wooded with oak-trees. (See "Ordnance Memoir and Survey.") Several towns and villages in Ireland commence with the word "derry," such as Derrybawn, &c., the said places being associated with ancient oak woods.

Without attempting to enter into any botanical descriptions of a minute character, we may observe here that the *Quercus robur* is the common British oak, and is spread more or less over the British Islands; but there are two varieties of the oak which some botanists are inclined to regard as distinct species, viz., the *Quercus pedunculata* and the *Quercus sessiliflora*, or the sessile-fruited oak. The latter is very common to Durham and the North of England, as well as the temperate parts of Europe. The wood of the *sessiliflora* is of a darker colour than the *robur* or common oak. Under the plane and finishing processes of the workman the wood presents a smooth and glossy grain not unlike the chestnut. The larger septa or silver grain of the *Q. sessiliflora* is not so abundant as that in the common oak. As a wood, however, it is heavier and harder, but it is subject to warp and split if not protected in the seasoning. The common British oak grows to a very large size under favourable conditions, both in the woods and hedgerows. The wood has generally a reddish hue, the larger septa numerous, producing large flowers. The grain, as a whole, is fairly straight, and, to a large extent, free from injurious knots. Unlike the *sessiliflora*, the *robur* splits freely, making good laths for plasterers and slaters, and has been often used for such when the timber was plentiful. Where the timber can be had readily it is, without doubt, the best kind of oak for joists, rafters, and for other house-building purposes, where stiffness and straightness in grain are desirable. It is a moot question which of these two kinds of native oak constitutes the splendid material found in several of our old Gothic and open-timbered roofs. Some authorities think, as far as observation after a great lapse of time can show, that it is the *sessiliflora* that forms, in most instances, the Mediæval roofs of our cathedrals and churches, but there can be but little doubt that both species were pressed into service, and that the material used depended much on local circumstances, and in whatever was available or good of its kind. In the conversion of valuable timber into plank, scantling, or boards intended for ornamental and furniture uses, and where it is required that the broad exposed surface, untouched by paint or with the aid of varnish, should exhibit the full beauty of the grain, it is necessary to act with a little foresight or experience. A tree or a balk for ornamental purposes and effect, particularly the oak, may be cut to great advantage or the reverse. To cut a large balk of oak to advantage for ornamental uses, it is necessary to cut it so as to pass obliquely through the larger septa or silver grain, thereby producing the feathering or fine flowered appearance so well known in the oak and also in other valuable and fancy woods. Attempts are often made by grainers to rival the natural grain, but success is rare by paints or stains, and the same may be said of paper-stainers, even when the natural wood is utilised as the pattern or model. In structure the oak has defined characteristics like the ash, elm, and chestnut, and these, through experience, are known to the workmen, who are in the habit of operating upon them with edged tools. The sections of a number of building timber trees show that the wood is composed of separate layers, circles or rings, surrounding the pith. These layers or rings are not, as a rule, regular in their thickness. With a good pair of eyes, or with the aid of a magnifier, a number of rays constituting fine divisions will be at once discovered, spreading from the pith or core to the bark, with pores between, in some cases empty and in other instances filled with a vegetable substance. The British oak and other foreign varieties exhibit very distinct annual rings, one side being porous and the other compact. The *Q. robur*, or common oak, is easier to work than the *Q. sessiliflora*, but in strength, elasticity, toughness, and hardness all combined, it is generally conceded that the *sessiliflora* is superior for ship-building, though heavier and more difficult to work than the common oak. It would lead us too far afield in the present article to enter into a statement as regards the relative durability of different woods used for building purposes, and the theory of strains as it affects oak and other bearing building timber as compared with iron or other materials. As regards crushing strength, tensile strength, working strain, and working load, and other tests applied, British oak shows good results when the wood is well selected. As regards crushing strength, it may be taken as an axiom that wet timber is not nearly so strong as dry, and that the square is the strongest form of rectangular pillar. It may also be accepted, as far as experiments have gone up to the present, that the limit of elasticity of timber is not accurately defined, the co-efficient of elasticity depending on the dryness of the timber. Though oak or other timber railway bridges have shown short lives in America, it must be remembered they were hurriedly erected, and nearly always of green or unseasoned timber. In the British Islands, however, we have several instances of very long-lived oak timber bridges, of bridges which, by ordinary care or repairs, have stood a remarkably long time,—indeed, for centuries. Some of our best authorities conclude that the working load on piles depends more on the nature of the ground than upon the actual strength of the timber. As piles in foundations under masonry are buried deep in the ground, the latter, of course, supports an uncertain share of the weight of the superstructure, hence it is difficult to determine the exact distribution of the weight resting on piles and on the surrounding soil. Elm for piles under the water or for support in unstable foundations on land, has a good historic character to its credit for durability, but the majority of our old architects were in favour of oak, and used it plentifully for palings and framings in foundations for stone as well as timber bridges over rivers. In the treatises of Alberti, Palladio, Scammozzi, Serlio, and in other authors, in addition to those already mentioned in the course of our subject, interesting information will be found respecting the use of oak timber. We said that elm for piling purposes under the water or for wet situations, bears a good historical character, and we may add that the fact was instanced in the case of the piles of old London Bridge, many of which were elm, and after a lapse of 600 years the timber showed no material decay. When the qualities of toughness and elasticity are also considered, and when sudden and repeated shocks are to be sustained, undoubtedly the ash is superior to all other British timber, consequently it is useful in carriage and cartwork, machines, implements of husbandry, &c., but for building purposes it is not suitable, for it is too flexible and not durable enough. For general purposes, the British oak stands pre-eminent as a useful and ornamental timber.

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[*] See vol. xlii., p. 765.

As there are some other varieties of oak timber, some found in the British Islands and others imported, and more or less used in connexion with building, a little information about the relative qualities of the principal kinds will not be out of place. The common British oak, when young, is very tough, and the wood often cross-grained, and rather difficult to work. The dry or well-seasoned wood is hard, and it requires the cutting-tools of the workman to be kept in good order to produce a satisfactory finish. The young wood does not joint well with glue, while seasoned woods of most kinds generally do, save those that contain an oily matter, like some strong-smelling, aromatic, or odorous woods,—for instance, rosewood. These last-named kinds require a good drying-out process, or an exposure before the fire before glueing their joints. The Durmast oak, which is to be found in the south of England, which is often used in building, is a native of France, but it is much less strong than the common British oak. There is a fox-coloured or brown oak, mostly to be found in Lincolnshire, which, though not as endurable as the common oak, yet it is a useful timber for sundry purposes in carpentering and building. Among the chief foreign varieties of useful oak timber trees are the Riga oak, the Dantzig, red American oak, white American oak, Adriatic oak, &c. The Austrian oak attains a much greater altitude than the British tree, but the wood is whiter, more soft, and less valuable. Among the American kinds, the chestnut-leaved oak is remarkable for its beauty of form and height. The wood is however, cross-grained, but very serviceable in special cases; for instance, the wheels of carriages, &c. The *Quercus obtusiloba*, or blunt-lobed iron oak, is valuable as a ship-timber. The *Quercus alba* is a great favourite in America. It is a white oak attaining an immense size in some of the States, and is suitable for both house and ship building, the wood being tough and flexible, and has good lasting qualities. In a word, it may be said that oak of the best quality is more lasting or durable than any other timber tree attaining a like size. There are several European, American, African, and East Indian oaks of the evergreen kind, some of them useful as timber, but mostly known perhaps through their properties, resources, or extracts as articles in commerce, dyeing, medicinal, or other economical uses. The *Quercus suber* is an important tree being the cork oak of commerce. The bark of the younger trees is imported for tanning purposes, but the bark of our native oak has from time immemorial been used for similar purposes, as also the saw or wood dust of the tree. From the Kermes oak, or *Quercus coccifera*, was obtained the original famous crimson dye, or, rather, from the insect associated with this oak. Similarly to other insects in the British tree, in this oak lives the *Coccus ilicis*, or small scale-shaped insect, which, when immersed in vinegar and dried, produces the colouring matter from which scarlet dyes were usually obtained before the discovery of the Cochineal insect of Mexico, the *Coccus cacti*. It is curious to find the early use of scarlet in the offerings of the Tabernacle. Again, we have Plutarch quoting from Simonides a description of sail given by Ægeus dyed with the flower of the *prinos* or evergreen oak. Further, we have mention of the *coccus* in Theophrastus and Pliny. The oak, native and foreign, as a living tree, or as a building and ornamental wood, despite its hardness, is not, more than other hard or softer woods, free from the attacks of wood-boring beetles and sea-worms. The termite or white ant is the most destructive on land, and the *Teredo navalis*, or marine worm, stands confessedly so in destructiveness to the timber in salt water, or that used in shipping, piling, and harbour works. Indeed, the *teredo* appears to have been known to Homer and Ovid, not to speak of other early authors. The gall-fly, or *cynips*, of various species, attack the oak, British and foreign. Many observers know those excrescences on the oak called galls. The insects or flies, in order to deposit their eggs, produce the puncture in the different parts of the tree. Each species forms a nidus peculiar to itself, varying in size from that of a pea to that of a nut, and sometimes larger. The shapes and colours vary and are variously disposed. Some are under the surface of the leaves, on the leaf-stalks, under the flower, on the smaller branches, bark, buds, and occasionally on the acorns. The imperforated, or those in which the worm has died, are the galls which are most esteemed. *En passant*, we may observe that, mixed with sulphate of iron in water, they form ink, or brown and black dyes, according to the proportions used. The progress of chemical science within the last half-century has greatly limited the utilisation of plants for dying and for other manufacturing uses, and the British oak, as well as other native and foreign trees and plants, have been similarly affected.

The subjects of the seasoning, preservation, and dry-rot of timber would need a treatise to describe the details. As regards oak, the same advice holds good as that written of other building timber. There are numerous artificial solutions and processes, steaming, water seasoning, and creosoting, the latter applicable as a preservative under certain conditions of use. After all that can be said, the fact remains that, for general carpentry, joinery, and furniture purposes, the old natural process of atmospheric seasoning, of cutting it and keeping it in stock for a considerable time, well ventilated, is the best, wherever it can be done. Well-selected and well-seasoned oak or other building timber needs to be well placed, and a practical knowledge of building includes the regulations of its disposition and safety under the various conditions of its use.

In conclusion, we will now observe that the oak has a magnificent history in all its aspects, historical, artistic, and mechanical. In Classic architecture and sculpture, the oak leaf as a foliage was utilised as well as the acanthus, the olive, and the vine; and in our own British Decorated Gothic the oak-leaf stands prominently in the capitals along with the ivy, whitethorn, vine, and other native plants. The workmanship of the Gothic oak roofs, porches, rood-lofts, screens, pulpits, and other ecclesiastical oak fittings and furniture, told well for the skill of the British craftsmen, and the same may be written of the oak staircases, groinings, and panellings in connexion with our old Domestic architecture. The design and execution of the carpentry, joinery, and furniture was a fit accompaniment to the masonic architectural marvels. Constructive carpentry of course originally led the way, but stone and timber, oak and oolite in Britain, for long centuries kept pace together. We will bring our theme to a close in the words of William Tighe, whose canto on the oak, as well as his other three cantos on the rose, vine, and palm, have never received the attention they merited. To a poetical faculty and a love of nature, Tighe added patient observation, practical knowledge, and statistical information in other directions. His notes to his cantos are, perhaps, more valuable than his muse, but of the oak he sings throughout enthusiastically and nobly,—

> "Long may
> The remnant, Britain, of thy forest scenes,
> Inspire the meditating bard, or fill
> The painter's eye with nature's bold design;
> Such as Salvator would have mark'd with iron
> And gaunt banditti, near the foaming lapse
> Of cataracts, that o'er the sombre rock
> Have cast the headless and uprooted Oak,
> Or such as, after Hexham's bloody field,
> Received the flight of royal Margaret.
>
> * * * * *
>
> Not Lithuania nor the swampy wilds
> Of Transatlantic forests can supply
> The elastic fibre, and the stubborn limbs,
> Of British growth."

Long live the oak, and may its fecundity, strength, and durability be typified in our trade, commerce, and national character.

THE SOCIAL SCIENCE CONGRESS.

THE special questions in the Health Department to be discussed at the Nottingham Congress, September 20th — 27th, are the following:—

1. How does the employment of mothers in mills and manufactures influence infant mortality; and ought any, and if so what, restrictions to be placed on such employment?
2. What reforms are desirable in the administration of hospitals?
3. What are the advantages of a system of notification of infectious diseases, and what are the best means of carrying the same into execution?

The following are arranged for the Art Department:—

1. On the new Royal College of Music.
2. In what way can the influence of art be best brought to bear on the masses of the population in large towns?
3. What are the proper limits of conservatism in regard to ancient buildings?

PROPOSED FURTHER EXCAVATIONS AT EPHESUS.

THE SITE OF THE TEMPLE OF DIANA.

AN influential, though rather thinly-attended meeting, was held in the Mansion House on Monday afternoon, by the permission and under the presidency of the Right Hon. the Lord Mayor (Sir J. Whittaker Ellis, bart.), to promote the resumption of the important excavations made by Mr. J. T. Wood, on the site of the Temple of Diana at Ephesus. Letters cordially approving of the object of the meeting, but regretting the inability of their writers to attend, were read from the Prince of Wales, the Duke of Connaught, the Duke of Albany, the Archbishop of Canterbury, Cardinal Manning, the Earl of Shaftesbury, the Bishop of Durham, the Dean of Westminster, the Rev. Canon Farrar, Sir F. Leighton, P.R.A., and other gentlemen. Mr. Beresford-Hope, M.P., Mr. Alderman M'Arthur, M.P., Professor C. T. Newton, of the British Museum, Professor T. Hayter Lewis, Professor Donaldson, Professor Roger Smith, Mr. Watkiss Lloyd, and Mr. R. P. Pullan were amongst those present.

The Chairman, in opening the proceedings, said he had very great pleasure in allowing that meeting to be held in the Mansion House. The famous Temple of Diana at Ephesus, one of the seven wonders of the world, had been hidden from view for many centuries, and its exact site was unknown to the modern world until Mr. Wood, after six years of patient search, found the remains of the temple in the year 1869, more than 20 ft. below the present level of the ground. He understood that the trustees of the British Museum, who had previously supplied the means to explore some of the public buildings in the city of Ephesus, then authorised the exploration of the ruins of the temple, and five years were devoted to the work, with the aid of Government grants to the amount of 12,000*l*. In the year 1874 very important excavations at Babylon and Nineveh were being carried on by the English Government, and the Trustees of the British Museum resolved to suspend the work at Ephesus, as they thought it inexpedient at that time to apply to Government for a fresh grant for that purpose. Mr. Wood had from year to year applied for a grant to continue and complete the exploration of the site of the temple, but the times had been unfavourable for such enterprises, and there was little or no chance of Government aid being now rendered to the work. In the meantime, those portions of the site of the temple which remained unexplored were most likely to bring to light most valuable and interesting sculptures, which were cast by the fall of the temple beyond the limits of the present excavations. An influential committee, he was glad to say, under the patronage of H.R.H. the Duke of Albany, had now been formed, to resume the excavations by subscriptions, and Mr. Wood would explain to the meeting how he proposed to spend the funds which might be raised. Of the many interesting meetings which had been held in the Mansion House during his (the chairman's) year of office, there was none which was of greater interest than the one which he then had the honour to address. There had been, of course, meetings of greater public and social interest, but there was nothing more interesting than the pursuit of the history of the past as exemplified by architectural monuments. Just as Professor Owen was able to take a bone and describe from it the animal to whom it belonged, what the said animal lived on, and when he lived, so learned men were able, by the study of ancient remains, to make clear many obscure points in history. He therefore sincerely trusted that the movement to prosecute the explorations on the site of Ephesus would be attended with success.

Mr. A. J. B. Beresford-Hope, M.P., said he was glad to have the opportunity of supplementing by a few words the interesting remarks made by the Lord Mayor. Mr. Wood would tell the meeting what he had done, and would tell them what he meant to do, but he would not tell them of the infinite toil, labour, and heart-seeking energy and earnestness which he had thrown into the work. People who saw the beautiful sculptures from the Temple of Diana at Ephesus in the British Museum, all clean, neat, and white, would agree in saying what a delightful thing it was to have them, but the excavations which unearthed those treasures were not done in kid gloves. The reason why the fragments which had been found at Ephesus were so perfect was that for many centuries they had been buried beneath some 20 ft. of river mud,—beneath the bed of the Cayster. By following a clue given by an inscription which he chanced to light upon, Mr. Wood had succeeded in making a most ingenious series of discoveries, which would be found most graphically described by his friend Mr. Newton, of the British Museum, in his essay on the subject, first printed in the *Edinburgh Review*. Mr. Wood's excavations, it should be remembered, had to be done by men very difficult to control,—not by those respectable blackguard Christian drunkards the English navvies, but by lazy, unreliable, and treacherous Turks. But Mr. Wood had controlled them, and the results of his work were before the public. But it might be asked by some captious critic,—"If Mr. Wood's discoveries are what you say they have been, why does not the British Museum go on with the excavations on the site of the temple? Is not there a taint of suspicion in seeking to carry on by public benevolence a work abandoned by the British Museum?" As a trustee of the British Museum, he (the speaker) was able to say that that was not the case. At the present time ironclads and excavations would not lie down together. The lion ate up the lamb in this instance, and that a Government grant would be obtained for carrying on the excavations at Ephesus was, he believed, beyond hope. The British Museum, out of its slender grant for such purposes, had large demands made upon it at the present time for explorations at Nineveh, Carchemish, and other historic sites upon which great discoveries had been made, and where it was believed we were on the threshold of still further discoveries. He sincerely trusted that Mr. Wood would be enabled to pursue his explorations, because the Temple of Diana at Ephesus was not a mere duplicate of the Temple of Minerva at Athens, and still less so of the temples at Pæstum and Agrigentum, but it possessed features which stamped it as being the type of another and a different school of architecture, all the details of which could no more be mastered by the study of other known temples than the plan of a Norman cathedral could be taken as a safe guide to that of a Decorated building. Mr. Wood would tell the meeting of his great discoveries, and he would be followed by Professor Newton, great master as he was of archæology, who had also been at Ephesus, and had seen Mr. Wood at work.

Mr. J. T. Wood next addressed the meeting. He said his task was a very easy one, for he had to speak in a very good cause, which only required a plain unvarnished statement to be made to convince his hearers that it was well worth while to continue the excavations at Ephesus on the site of the temple. As there were probably some present who might not be able to call to mind exactly how the temple was found, he would, with the aid of the map exhibited, explain that point. He found, in reading ancient authors for information as to the position of the site of the temple in relation to the city of Ephesus, that they did not afford him any information, but directly contradicted each other. When, therefore, in 1863, he began his search for the temple, he had no idea on which side of the city to look for it, but he made experimental excavations on all sides, particularly towards the north-west, in which direction, in the opinion of eminent scholars, the remains of the temple would be found, but he met with no success there. After digging for more than a year with his own slender means, the trustees of the British Museum advanced him a small sum to continue the work. Without going into all the details of his subsequent operations, he might say that he explored the great theatre or Odeon, and in the course of the work he came upon the wall against which St. Paul must have rubbed his shoulder in trying to enter the theatre. He also came upon an inscription, which turned out to be a very opportune discovery, inasmuch as it confirmed him in the opinion he had arrived at as to the direction in which to look for the temple. The inscription, which was a very long one, was now in the British Museum, accessible to those learned in such matters, although not yet open, as it some day would be, to the public view. It described a certain number of golden images which were voted to Artemis, by order of one Salutarius, in the time of Trajan, in the year 104. These images, thirty of which were described in the inscription,—there might have been more, for the inscription was imperfect,—were ordered to be taken from the temple on certain days and brought through the city, entering the latter by the Magnesian Gate, and returning through the Coressian Gate, so making the whole circuit of the city. On finding that inscription he saw that he must discover those two gates before he could make much progress in his search for the temple, and he set to work and found the gates. He found that the road leading through the Magnesian Gate gave him the best clue, as the road was paved with marble, with four distinct ruts which had been cut into it by the wheels of chariots. The road through the Coressian Gate, not promising much, was abandoned. Having written to the trustees of the British Museum reporting the clues he had obtained, those gentlemen saw that he had very good prospects of success if he continued his explorations, and they, therefore, advanced him sufficient money to proceed with the work until he came to a still wider road, following which for some distance he came upon the angle of the peribolus wall,—a boundary defining the limits of the sacred precinct of the temple. In the wall he found an inscription stating that it was built by Augustus. He now knew that he could not be far from the remains of the temple itself. The destruction of the temple was achieved by the Goths about the year 262 of our era. It was known that the Christians did their best to destroy every vestige of it, and, therefore, instead of being able to trace the positions of the whole of the fallen columns, he could only trace the positions of four of them.* The Christians broke up the columns and made lime of them, in their endeavours to build a church on the site. Besides the remains of the columns mentioned, he had found a portion of the wall of the cella, and a piece of the lowermost step. When he came to excavate the area at the foot of the steps, he found very little remaining, and, unfortunately, at that time (1873-4) the trustees of the British Museum stopped their grants in aid of the continuance of the excavations. The thirty-six sculptured columns, of which remains had been found, were placed eighteen at each end of the building. The sculptured columns mentioned by Pliny were described as being sculptured upon their lower part with figures in full-life size. In the course of his explorations he had succeeded in finding the remains of five sculptured drums. In all probability the columns were not sculptured to a very great height, each column illustrating three separate subjects, and if there were a separate subject represented on each drum, there were originally about 108 of these beautiful sculptured drums. There was not the least doubt in his mind that if the excavations were continued more of these beautiful remains would be found. But, as he need hardly say, the most beautiful of the sculptures which adorned Greek temples were generally found in the frieze and in the tympanum in each pediment of the temple. In the course of his diggings he had come upon two stones which he believed to have been part of the frieze of the temple. Objection had been taken to his view of the matter, on the ground that if they ever did form part of the frieze, the frieze must have been considerably higher than was ordinarily the case in Greek temples. But it should be remembered that the Temple of Diana at Ephesus was unique among Greek temples. He thought he was warranted in assuming that further excavations would reveal further remains by the fact that in one small trench which he had opened a considerable distance beyond the general line of excavations, he had found the topmost stone of the cornice, with a stone belonging to the cymatium overlying it. The probabilities were great that a great deal of the remains of the temple remained undiscovered owing to the fact that the topmost stones of the temple would be projected to a greater distance from the steps than the fringe of 30 ft. at present excavated beyond the line of steps. He had carefully estimated the cost of the proposed further work of excavation, and a sum of from 4,500*l*. to 5,000*l*. would be required. If, as he firmly believed, further excavation led to further important discoveries, the money would be well expended. Personally he was willing to make any sacrifice in the matter that the committee were likely to expect of him.

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* In vol. xxx. of the *Builder* (1872), p. 106, we published a plan of the temple, together with a view of the remains of one of the columns, 6 ft. 1 in. in diameter, discovered by Mr. Wood in 1871. In the same volume (p. 726) we published a view of a portion of one of the drums of a sculptured column (Pliny stated that the Temple had 127 columns, thirty-six of which were, he says *cælatæ*, *i.e.*, sculptured in relief, one being by Scopas).

Professor C. T. Newton, Keeper of the Greek and Roman Antiquities in the British Museum, said he had been desired to move the following resolution :—

> "That the complete excavation of the Temple of Diana at Ephesus is an object well worthy of support from the nation, which now possesses, in the British Museum, the only portions of the beautiful sculptures as yet discovered of the temple, and that a subscription list be at once opened for the purpose."

He wished to say a few words on the probable chances of further discoveries at Ephesus, and what he had to say was from his own personal knowledge of the site where Mr. Wood had dug for so many years, and which he (the speaker) visited year after year, watching the progress of the work being carried on under Mr. Wood's direction. He had enjoyed the further advantage of having had under his charge in the British Museum those precious remains of sculpture, architecture, and inscriptions which were the fruit of Mr. Wood's long and laborious enterprise. In the course of the years that he had had those remains under his care, he had had the advantage of hearing the remarks which had been made upon them by the most learned archæologists, not only of this, but of all European countries, and he had learned a great deal more about them than was at first apparent on their discovery. He was convinced that the more those remains were studied, the more they would be found to contribute important evidence as to the history of Greek sculpture, and also to that great body of documents, Greek inscriptions. The practical question which the meeting had before it, and as to which the British public had a right to call for some sort of evidence, was, What is the chance of finding more interesting marbles in this great mass of soil, averaging 20 ft. in depth, and already excavated for some distance on each side of the site of the temple? Mr. Wood, in concluding his remarks, had stated a very important fact, viz., that he had found a portion of the cornice at a point almost on the extreme margin of the site. Now all Greek temples, so far as he had ever seen or heard, when they fell down, owing to earthquake or other causes, fell outwards, and the consequence was that the superincumbent mass of stone forming the architrave, frieze, and cornice was projected to a considerable distance. A sufficient area all round the site of the temple had not, he thought, been explored, and it would be a great pity, after the vast excavation had been made in the centre of the site, to be unable, owing to want of funds, to continue the exploration for some distance further round the excavation. Such further excavation was, he thought, calculated to lead to further important discoveries. He spoke from experience on the point, for when he explored the site of the Mausoleum at Halicarnassus he found very little indeed on the actual site of the monument. After the site had been ransacked he was advised to abandon further labours, but he went on working away from the centre, and was before very long rewarded by the discovery of the fragments of the colossal horse now in the British Museum. The presumption, therefore, was that continued excavations would lead to further important discoveries, for although it was no doubt true that the Christians broke up the remains of the temples with sledge-hammers, and burnt the pieces to make lime, there was no doubt that a great many large and important fragments escaped the general destruction. Just at the time when Mr. Wood had announced the discovery of a Doric portico close to the temple, he (Mr. Newton), like one of the three Fates, had to cut short the excavations by telling Mr. Wood that there was no more money available for the work. That Doric portico ought certainly to be explored. Again, within the peribolus or sacred precinct there were many accessories to the temple, all of which were of great interest. Within the sacred precinct of the Temple of Diana at Ephesus there stood, we know, a temple dedicated to Augustus (the Augusteon), of which Mr. Wood had found a portion in the shape of a beautiful pavement. On the site of this building they might expect to find statues of Roman emperors. Mr. Wood had not properly explored the site of this building, probably because he (Mr. Newton), when he was there, said "Don't let us waste any portion of our slender funds in exploring this Roman building." But the remains of this building and of the Doric portico ought certainly to be thoroughly explored. Indeed, it would be a national reproach if we did not thoroughly explore the whole site of the sacred precinct of the temple. Possibly a thorough exploration would lead to the discovery of tablets or slabs similar in character to those found by the French at Delos, containing lists of the treasures of the temple. The great temples of antiquity were banks in which people deposited their wealth, and from which other people received loans on giving proper security. Of all these banks of antiquity, the one which had the highest reputation in the ancient world was the Temple of Diana at Ephesus, which was to the ancients what the Bank of England is to us, viz., the one place where, if a man deposit his money, he is sure to get it back. There was, therefore, great interest attaching to the search for the archives of this great banking establishment of the ancient world. There was great reason for supposing that such tablets as he had spoken of were set up somewhere in the precincts of the temple. The great crop of inscriptions which Mr. Wood gathered at Ephesus was as yet very imperfectly appreciated, because it had taken years and years to put together the fragments which he had collected, and it was only within the last month that a letter from the Emperor Antoninus Pius had been considerably improved. Mr. Hicks, who was associated with him (Mr. Newton) in the publication of the Greek inscriptions of the British Museum, was now engaged upon Ephesus, and when the work appeared it would be seen that if Mr. Wood had done nothing more than to discover the inscription already mentioned, the outlay which had been incurred had been well bestowed. The outlay, amounting to about 12,000*l*. in all, was most insignificant for a country like England, particularly when it was remembered that the whole of that sum was not voted by Parliament, but that a considerable portion of it came out of the sum allotted to the British Museum for the purchase of works. So important did he (Mr. Newton) consider Mr. Wood's work at Ephesus, that he was content to sacrifice his grant for a few years in order to provide a portion of the necessary funds. But the whole sum of 12,000*l*. was nothing compared with what the Germans had spent at Olympia, and what had already been achieved at Ephesus was due not to any national effort, but was the result of the energy and enthusiasm of one man. He cordially moved the resolution the terms of which he had read.

Professor Donaldson said he had very great pleasure indeed in seconding the proposition. In years gone by he had travelled all over Asia Minor, and could fully bear out what had been said as to the possibilities of further discoveries being made. He had no doubt that if Mr. Wood returned to continue his excavations some very interesting fragments of the temple would be brought to light.

Mr. R. P. Pullan supported the motion, and said that, as a fellow-excavator and explorer, he felt bound to testify to Mr. Wood's wonderful perseverance. He saw him at Ephesus when he was digging in the Odeon, when he had found the Magnesian Gate, and again when he had found the corner of the peribolus wall. The discovery of the remains of the temple was a great triumph for Mr. Wood, for a more unpromising site for the excavator could hardly be conceived.

Professor T. Roger Smith said he was happy to be allowed the opportunity of supporting the motion. Nothing in the present day was more remarkable than the way in which the records and monuments of the past were being brought to light. We had seen Olympia explored; we had witnessed the grand discoveries that Mr. Newton had made (and which had been so briefly alluded to) at Halicarnassus; and then we had had the extremely interesting discoveries of Dr. Schliemann; but he thought that, of all the discoveries of recent years, there was none of which we might be more justly proud than the discovery of the Temple of Diana at Ephesus. He sincerely trusted that the movement would have a successful result, and that the necessary sum of money would be raised to enable Mr. Wood to carry on and complete his investigations, which there was every reason to believe would be crowned by important discoveries.

The resolution was carried unanimously.

Mr. Alderman M'Arthur, M.P., moved, and Professor T. Hayter Lewis (hon. sec. to the fund) seconded, a vote of thanks to the Lord Mayor for presiding, and for allowing the meeting to be held in the Mansion House, and the meeting terminated.

THE WORCESTERSHIRE EXHIBITION.

UNDER the presidency of the Earl Beauchamp, Lord Lieutenant of the County and City of Worcester, and supported by a distinguished list of vice-presidents, an exhibition was opened at Worcester on Tuesday, the 18th inst., in the large building originally built for the Worcester Engine Works Company, at a cost of nearly 100,000*l*., close to Shrub Hill Railway Station, on the Great Western and Midland Railways. In 1872, the property was acquired by the West Central Wagon Company, Limited, who carried on the business until 1875. Since that time the building has not been used. The conversion of the building from a huge deserted factory into an exhibition building has been the work of some months. In February, Messrs. H. Rowe & Son, architects, were instructed to prepare specifications of the repairs; and tenders were speedily obtained. That of Messrs. Binnian & Son, of Kidderminster, for 995*l*., was accepted. Additional tenders of Messrs. Binnian have since been accepted for the erection of orchestra, lavatories, and other adjuncts. An ornamented iron verandah for the entrance to the building was supplied by Messrs Hardy & Padmore. The entire cost of adapting the building may be set down at about 2,000*l*. Rarely have so many important objects been brought together for the purpose of a county exhibition, and it is not too much to say that the show will well repay a long journey on the part of the visitor. The sections are:—1, Fine arts, under the chairmanship of the Very Rev. the Dean of Worcester, Lord Alwyne Compton, with a sub-division of art needlework, presided over by Lady Alwyne Compton; 2, Industrial, under the chairmanship of Mr. Henry Willis; and 3, Historical, under Rev. Canon Butler. The important towns of Dudley, Evesham, Kidderminster, and Stourbridge, contribute local committees towards the management, and nothing seems to have been omitted, on the part of those who have promoted the affair, that could be material to its success. The honorary secretaries have indeed worked indefatigably since the inception of the undertaking, and the city may be congratulated upon having had the services of two so able men as Mr. R. W. Binns and Mr. C. M. Downes. In the Fine Arts section, there are three galleries containing bronzes, and marble and plaster groups. Among them we notice the "Caractacus" of J. H. Foley; Marochetti's marble bust of the late Lord Hampton; Boehm's "Leonora"; Canova's bust of Napoleon I. Almost in the centre of the nave is T. Brock's bronze group entitled "A Moment of Peril," lent by the Council of the Royal Academy, by whom it was purchased for the nation under the terms of the Chantrey bequest. The sculptor is a native of the city. The South Kensington Museum has, with generous liberality, lent eight cases filled with a large number of choice specimens of art, each one being described with date of origin, style, and value. The objects consist of Indian armour, such as shields, daggers, sheaths, maces, sabres, and knives, Indian silver work, jewelry, and jade, among which are boxes, sprinklers, vases, and some handsome dress weapons; Japanese lacquer-work of great antiquity and elaborate design; Oriental pottery of various forms, all beautiful and many remarkable for originality of shape and colouring; Italian bronzes, chiefly ewers, statuettes, and candlesticks, many of an early period; some wonderful pieces of early hammered ironwork; and electrotype reproductions of royal, collegiate, and corporation plate. Mr. F. Elkington lends two cases, one of magnificent Chinese enamelling on metal, early *cloisonné*; the other of Japanese enamelling of the same kind. One of these latter specimens is a vase of the finest antique *cloisonné* executed at the period when the metal wire tracery was very minute in detail, and the art of the enameller had reached its highest point of perfection. Lord Beauchamp's Sèvres china (Case 16), some showing the handiwork of Castel, Pfeiffer, and Prevost, others of turquoise blue and Bleu-de-Roi; his Limoges enamels (Case 17), and the copiously illustrated series of enamel plaques, old Worcester porcelains, blue and white porcelains, and

Battersea enamels, easily and justly claim a very high degree of praise, and speak volumes for the taste of their possessors and for the liberality with which they have contributed their treasures towards the exhibition which their county or their country has inaugurated. The transfer printed porcelain of Worcester, in black or colours, made at first at Battersea by Alderman Jansen, and Worcester enamel painting, 1751-83, are represented by many valuable and typical examples of pottery. Among the miscellaneous art-pieces in this section we may refer more especially to Captain Castle's collection of choice blue and white porcelain; Mr. M. Tomkinson's Japanese ivory carvings, and Mr. Dyer Longstaffe's ivory diptychs. Of the latter, one is attributed to the date of about A.D. 1200. The subject is the Crucifixion with the Tau-cross. It may be compared with a sculpture in the College at Durham. A stole in the same case (No. 25), and attributed to the remote period already mentioned, should have properly been placed in the art-needlework court. To this section the Venice and Murano-Venetian Glass Company contribute some clever and beautiful glass.

Around the sides of the fine-arts galleries a very important collection of ancient and modern paintings in oil colours has been grouped in a most instructive manner by Mr. Pollen, of the South Kensington Museum. Gallery No. 1 is devoted to the old masters and deceased British painters. Among them may be specified Lely's portrait of Blow, the music composer,—a figure painted on copper by Angelica Kauffmann. A goodly series of masters' and artists' names testify to the extreme desire which the exhibitors have universally manifested of freely lending the most valuable of their art-treasures towards the enhancement of this portion of the exhibition. Passing rapidly in review these paintings, we have only to notice the portraits of William, Lord Craven, and of Lord Stafford, by Vandyck, a portrait by Hogarth, works of Ary Scheffer, Sir J. Reynolds, Landseer, Etty, Sir Geo. Hayter, Greuze, Lely, Rubens, Gainsborough, Rembrandt, Ghirlandajo, Van Eyck, Holbein, and Quintin Matsys, to show how representative the exhibition is, and over how wide a field of art the examples range. Of the modern school exhibited in the Gallery No. 3 the works of Mr. B. W. Leader, a Worcestershire artist, claim especially the attention of the visitor for the clear transparency and sense of air and light which they possess. In this gallery also are many from the brushes of Messrs. G. F. Watts, T. S. Cooper, Professor Richmond, Val-Prinsep, T. F. Dicksee, Ansdell, Holl, and other members of the Royal Academy. In Gallery No. 4 are specimens of Rubens, Teniers, Ruysdael, Wouverman, Rembrandt, and Gerard Dow; Ang. Kauffmann's portrait of herself; Teniers, Gainsborough, Guercino's Samson giving the honeycomb to his parents; Morland's portraits of the Gunnings, Elizabeth as the ironer, and Maria the starcher; Paul Veronese's "Adoration of the Magi"; and a large number of fine and well-known paintings. The total number reaches to nearly 500. The water-colours are also numerous, among the artists being D. G. Rosetti, R. Doyle, Copley Fielding, Birket Foster, and J. M. W. Turner. Several charcoal drawings by D. Cox are interspersed with these. The portrait of the late Lord Beaconsfield, by Millais, in the possession of Mr. W. H. Smith, M.P., will attract considerable attention when it is exhibited in this section. The final sittings for the portrait had not been given when the illustrious statesman was seized with his fatal illness in the spring of last year. It will not be placed in the Worcester Exhibition until the last week of August. The total number of objects coming under this division of the fine-arts section is 720.

Art-needlework occupies a prominent position in the exhibition. It consists of 245 numbers gathered together and arranged in an instructive display by Lady Alwyne Compton, assisted by Mrs. G. E. Martin, Lady Catherine Berkeley, Mrs. Goldingham, Lady Georgina Vernon, and other members of the special sub-committee. The rich stores of this favourite Mediæval employment which are still extant throughout the country have been considerably drawn upon to furnish this remarkable, and, indeed, unique branch of the exhibition, and those individuals and bodies who have the privilege of possessing typical specimens of the needle's art have contributed them with great generosity on this occasion. Out of the great number of entries in the catalogue, we can only find space here to draw attention to a few examples. A cope, two dalmatics, and a chasuble (Nos. 49—53), all of the fifteenth century, and of extraordinary beauty and execution, appear to be of the best period of Flemish art. The subjects are derived from the life of our Lord. This comes from St. Mary's College, Oscott. A chasuble of old flowered stuff (No. 94) is attributed to the fourteenth century; on the orphreys is depicted in silken stitches the history of St. Joachim and St. Anna, the parents of the Blessed Virgin. Nos. 95, 96, are two other chasubles of the same century, the one bears Gothic flowers and fleurs-de-lis, embroidered on satin; the other is composed of cloth of gold and crimson, with orphreys of red velvet enriched with small figures under fine Gothic canopies. The examples attributed to Rhodian (No. 125), Cretan (Nos. 120, 126), and Bulgarian (No. 127) needleworkers are interesting for comparison with the productions of better-known schools. Lord Arundel of Wardour sends the "Westminster Vestment," a chasuble of Flemish work, dated 1468—1509; and the Principal of Stonyhurst College sends, among other early vestments, a chasuble made up of old orphreys of two periods, the middle and end of the fifteenth century. In the front is a representation of the tragic death of St. Thomas of Canterbury, under a canopy formed of one bay of Canterbury Cathedral. The side-strips of the back are of the same style of work, and were probably made by or for the monks of Canterbury as they represent events in the lives of SS. Thomas, Dunstan, Alphege, and Odo, saints especially venerated at that place. The modern specimens of needlework are all beautiful and artistic. As one looks at them the hope arises that this art, now too frequently despised or neglected by English ladies, may hereafter become as popular among them as it was in the sixteenth and seventeenth centuries. The needle-worked miniature portraits of royal and historical personages of the seventeenth century are valuable, not so much for the fidelity of their portraiture, as that they indicate very clearly the popularity of the art as an educational accomplishment at that period. For the same reason, great interest attaches to the lace canopy said to have been worked by the ill-fated Queen Anne Boleyn and her ladies for the christening of the Princess Elizabeth (No. 156), and the christening robe and mantle said to have been worn by that princess, which have been preserved in the Lawson family, descended from Queen Katherine Parr; these are exhibited by Mrs. Dent, of Sudeley Castle. Samplers and objects of infant attire or domestic employment abound in this division of the attractive and prominent exhibition.

The Historical Section, in the centre of the First Court, is surrounded by the Fine Art Section which has just been noticed. It consists of a very copious and representative collection of portraits of Worcestershire worthies and historical personages connected with the county. The portraits include members of the Royal family and nobility, bishops and ecclesiastical dignitaries, officers of state, statesmen, divines (orthodox and unorthodox), historians, and artists. There are three portraits of Richard Baxter, the great Puritan of Kidderminster, whose effigy in marble by Brock, the Worcester sculptor, has been lately erected in that town. The archæological objects connected with this section are, *inter alia*, charters, books (both manuscript and printed), coins, tokens of Worcestershire tradesmen, standard weights and measures, casts of Worcestershire seals, antiquities found in excavations recently made in the county, armour, views, and miscellaneous prehistoric, ancient, and Mediæval relics, illustrating the past condition of the shire and its borders. Among all this great collection of materials, out of which, as the Rev. Canon W. Butler eloquently remarked at the Guildhall dinner given by the Mayor of Worcester in recognition of the press view, a new history of Worcestershire might well be written, we have room to mention but very few special points. Mr. W. de Gray Birch, F.S.A., has arranged five cases of charters and a special series of manuscripts, including *fac-similes* of Anglo-Saxon charters, formerly belonging to the archives of Worcester Cathedral, and relating to the ancient landed property of the see; some early palæographical and historical pieces selected from the library of the Dean and Chapter; a selection of the most ancient and important charters and Royal privileges bestowed by English sovereigns on the corporation of the city; the borough charters of Bewdley and Evesham; and an extensive series of documents belonging to the corporation of Droitwich, many of which throw a new light upon the history of the salt-making industry of that ancient site. In succeeding cases may be observed, among a vast number of valuable objects that cannot be here enumerated, a series of Royal autographs; another of early block-books and rare printed books, belonging to the Rev. F. Hopkinson and others; some choice books and illuminated MSS., belonging to the President (Lord Beauchamp) and others; a large assortment of Worcestershire geological and palæontological specimens; a selection of works of local interest exhibited by the Worcester Public Library Committee; R. Baxter's great work entitled "Saints' Everlasting Rest," with his autograph dedication to the high bailiff and burgesses of Kidderminster, in whose possession it still remains; British, Roman, Saxon, Danish, and Mediæval weapons, ornaments, and pottery, from various excavations and local finds; and, finally, in Court No. 2 is an arrangement, by Mr. J. S. Haywood, of old English furniture to illustrate a rush-strewn room in a Worcestershire house of the eighteenth century. In this the carved oak chairs, the Worcester china tea-set, the spinning-wheel, the wooden trenchers, and the pewter plates and dishes, tinder-boxes and mirrors, stands of flint-lock guns, leather bottles, *et hoc genus omne*, vividly recall to the spectator a similitude of what must have formed the every-day common-place of our ancestors' lives. The industrial section, we fear, cannot be described on this occasion. We can only say the boot and glove making by machinery, the show of wool-combing, carpet-making, horn-turning, needle-polishing, and other machinery, the potter's wheel and the Parian china moulder's bench, the carriages, food products, paper, salt, iron, tinned and japanned ware, and, above all, for beauty, the modern Worcestershire pottery and glass will well repay a lengthy visit to the faithful city which is now *en fête* for the auspicious event which has already achieved a moral, and we trust will achieve a practical and financial, success. When the fortunate owners of so many rare and valuable objects of art, and the manufacturers of the staple productions of a shire which may be favourably contrasted with any in England, so cordially unite in their respective contributions to so practical an end as a county exhibition, it is not likely that intelligent visitors,—those seeking technical instruction in the arts,—and even holiday-makers, will be wanting to throng around its courts. If the authorities, who undertake the management of the exhibition, act upon a happy suggestion made at the opening ceremony by the president, and organise a series of lectures in connexion with the exhibits, this rich collection of works of art and industrial products may be turned to more immediate and direct uses, and thereby not merely the amusement of the rich, but the education of the artisan will be advanced, and the contributors will reap the satisfaction of having "helped to place within the reach of the artisan and mechanic a fine collection of art-treasures which gives them an admirable opportunity of studying the practical application of the principle of beauty of design." These are the sentiments upon which hinge the life and success of the exhibition.

THE RUSSIAN CHURCH, DRESDEN.

Following up the accounts we have recently given of the growth and progress of Russian house-building, we publish in our present number an illustration of a characteristic specimen of Russian church architecture. Its architect, Harald Julius von Bosse, of St. Petersburg, has strictly followed the traditions of that style, and on that account alone the church forms a conspicuous landmark among the architectural monuments of Dresden. But it possesses also other features, not the least of which is the close adhesion to the rules of old Russian church building. The architect was assisted in his work by Herr Karl Weissbach and Herr Ernst Becher. The frescoes are by Mr. James Marshall. Room is provided in the church for 300 worshippers. The cost of the building, close upon 25,000*l.*, was defrayed by voluntary contributions, chief among whom was that from Herr Simeon von Wikulin, Russian State councillor, a resident of Dresden, over 21,000*l.* The site was given by another Russian, of German extraction, Herr Alexander Wollner. The church was opened a few years ago.

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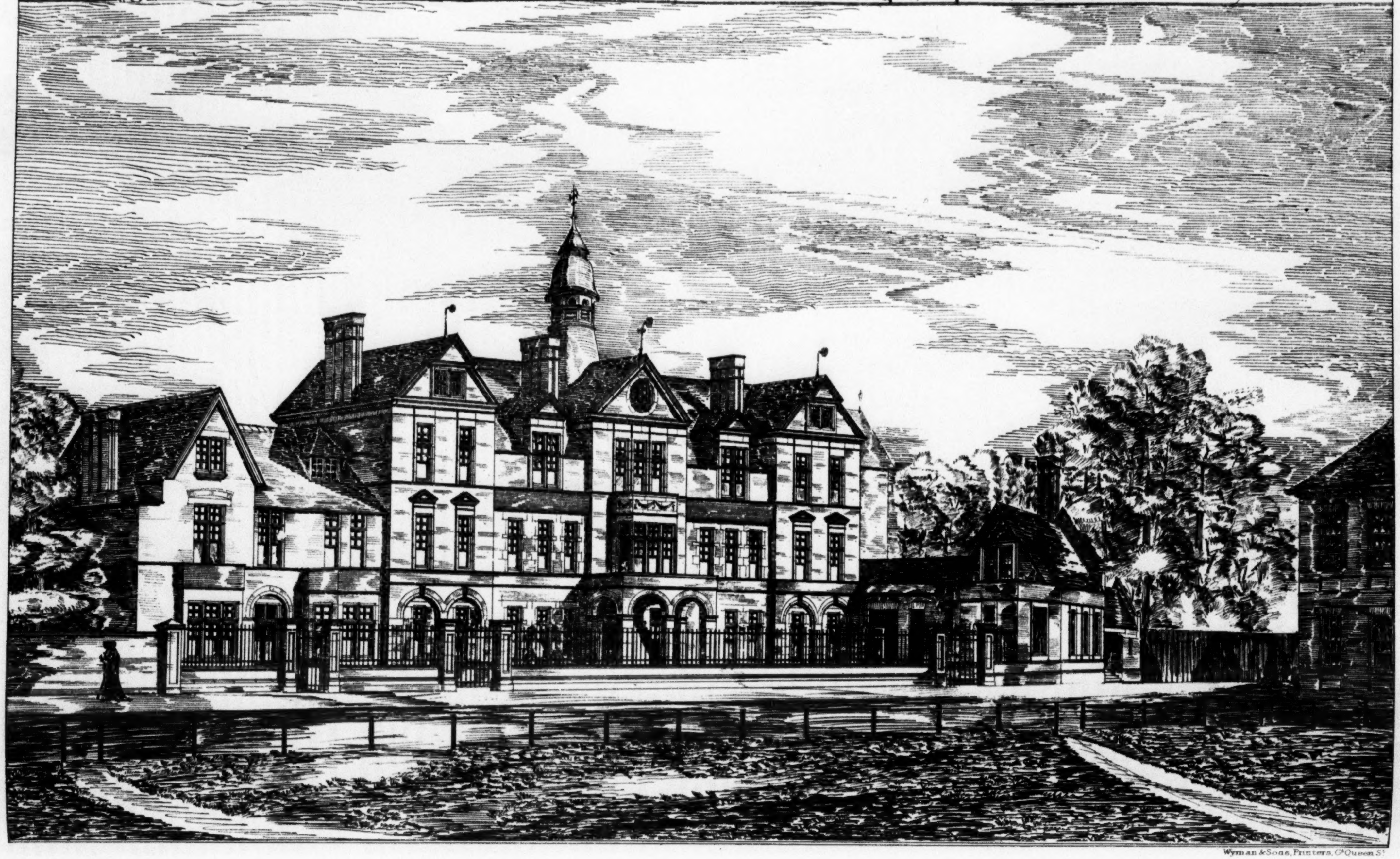

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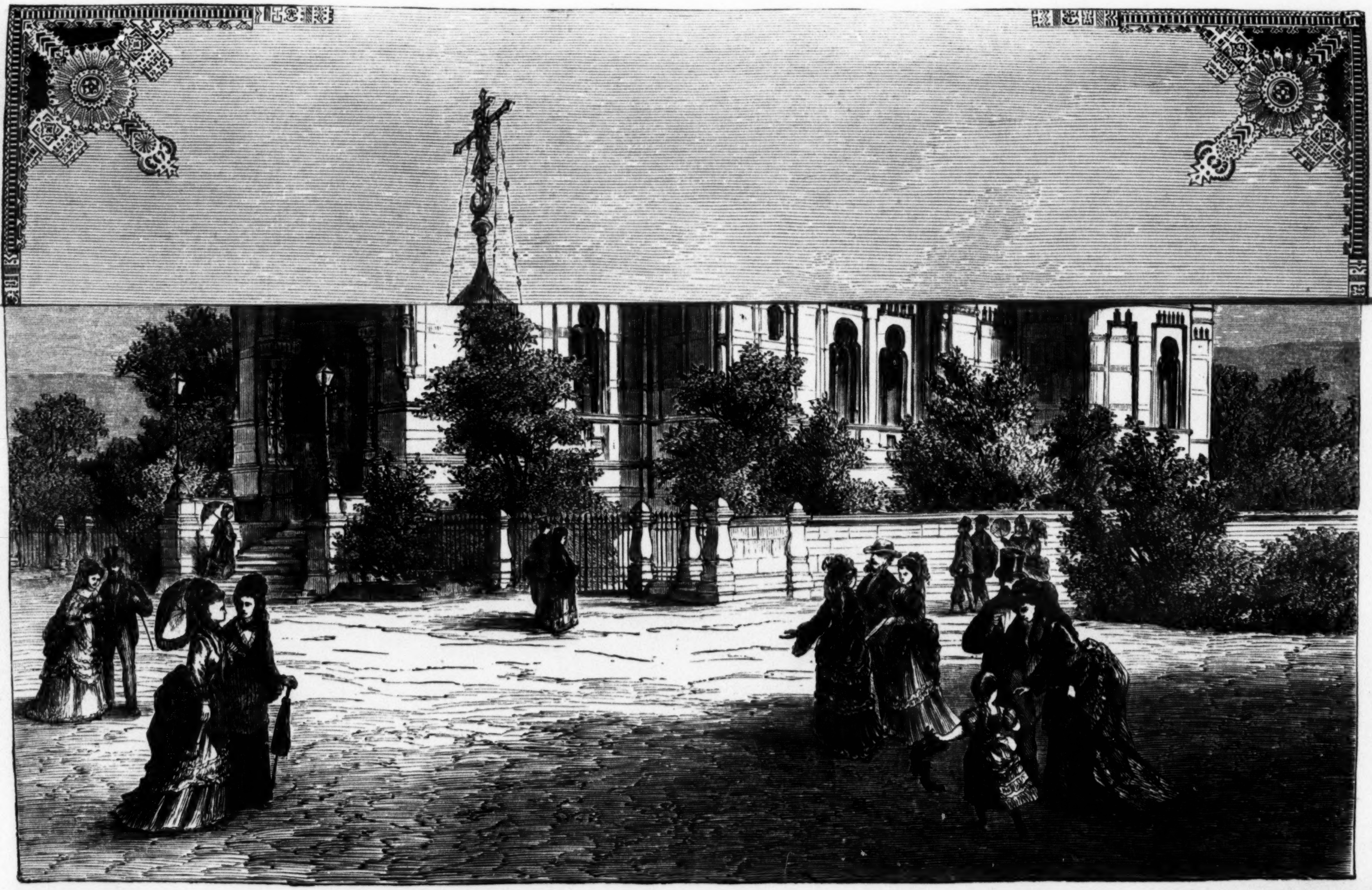
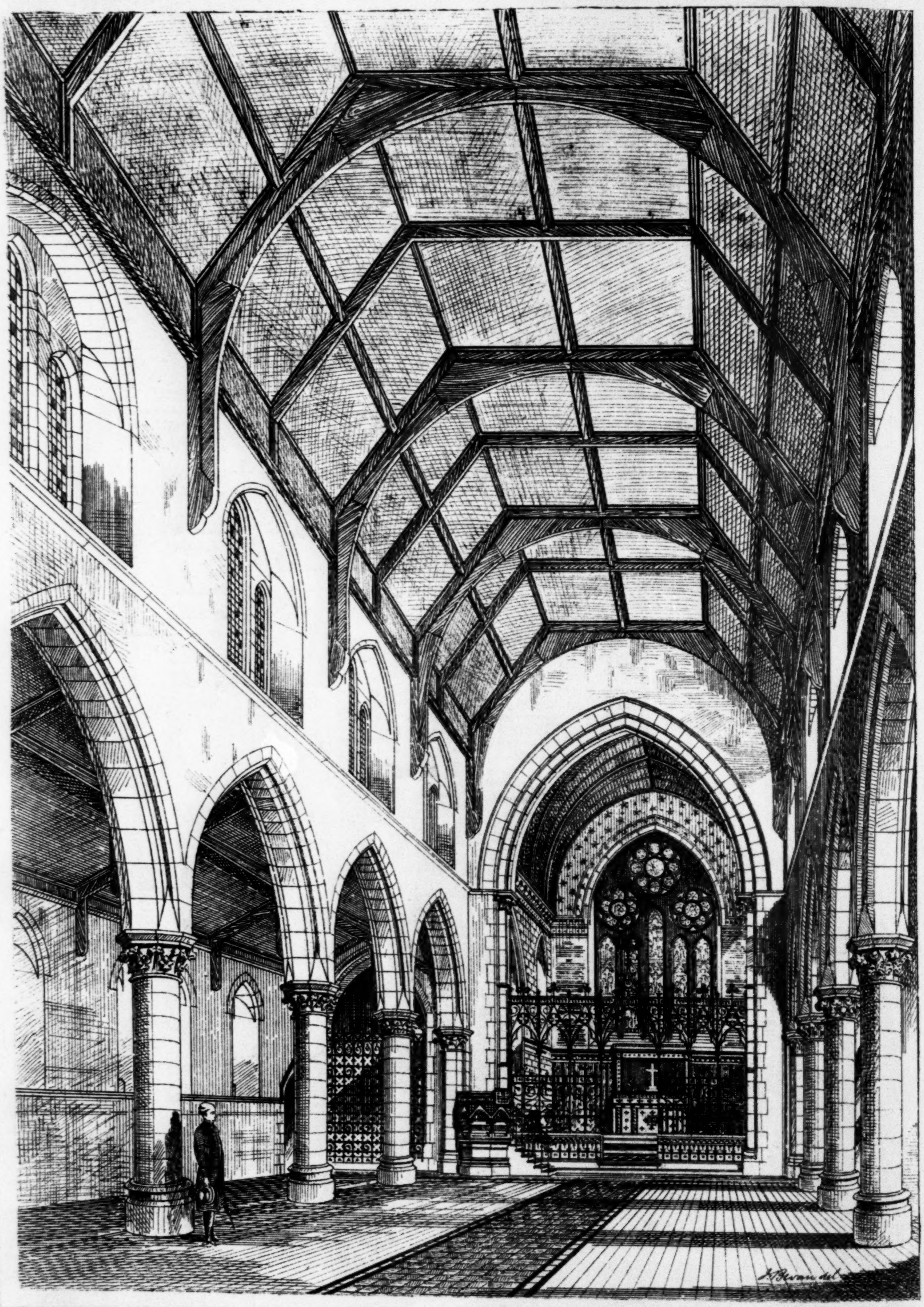


THE RUSSIAN CHURCH, DRESDEN.——Herr Harald Julius von Bosse, St. Petersburg, Architect.



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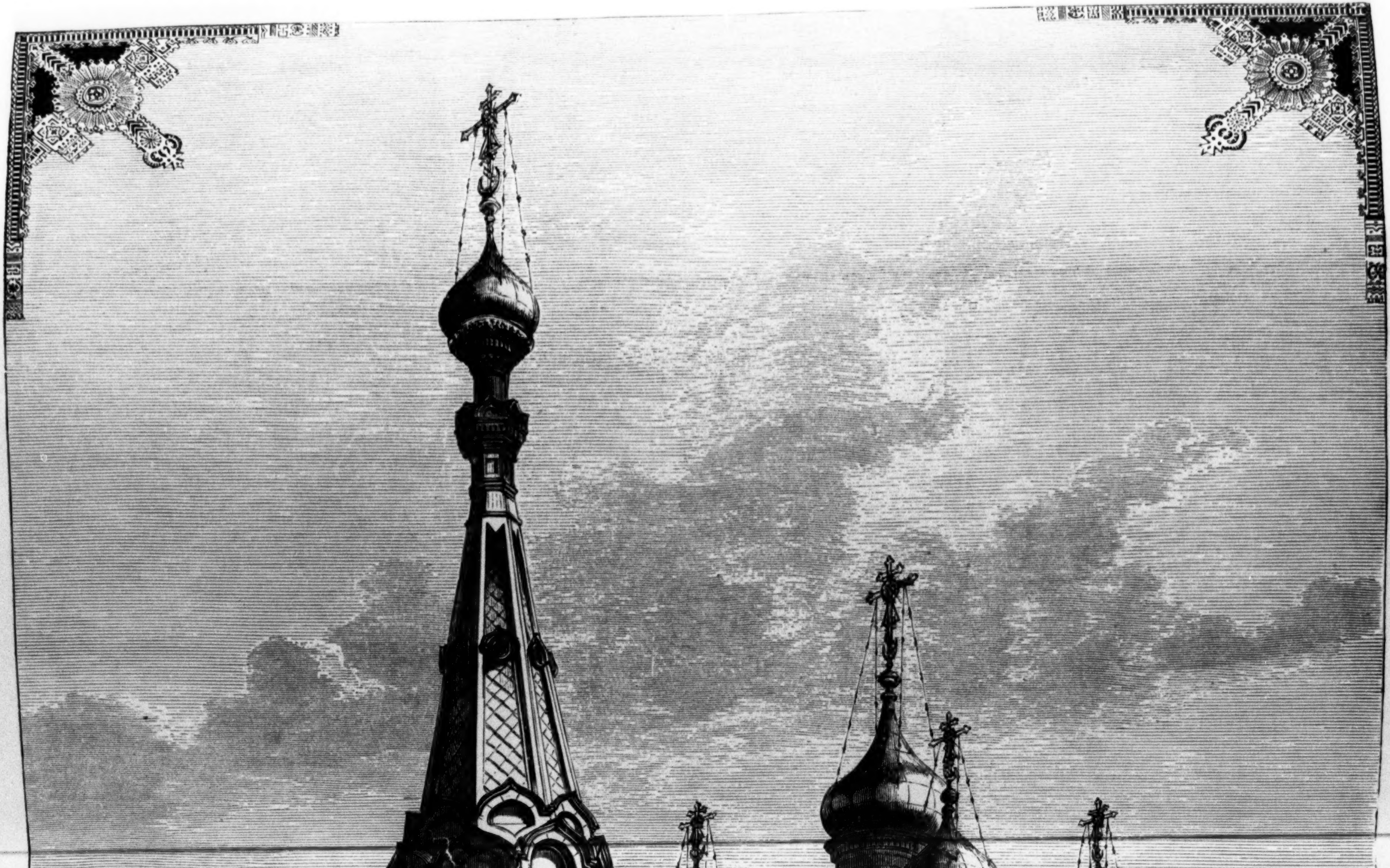
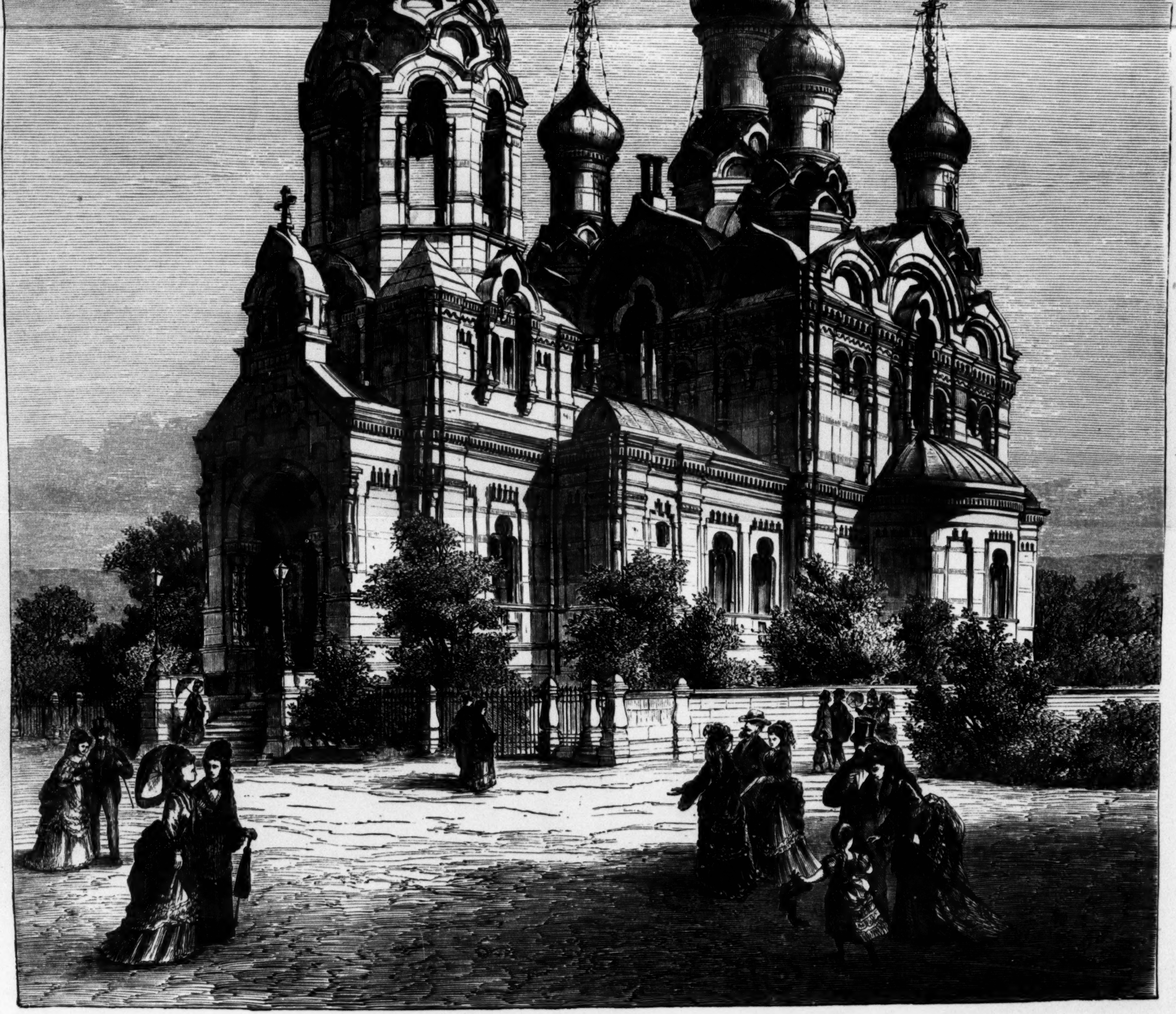
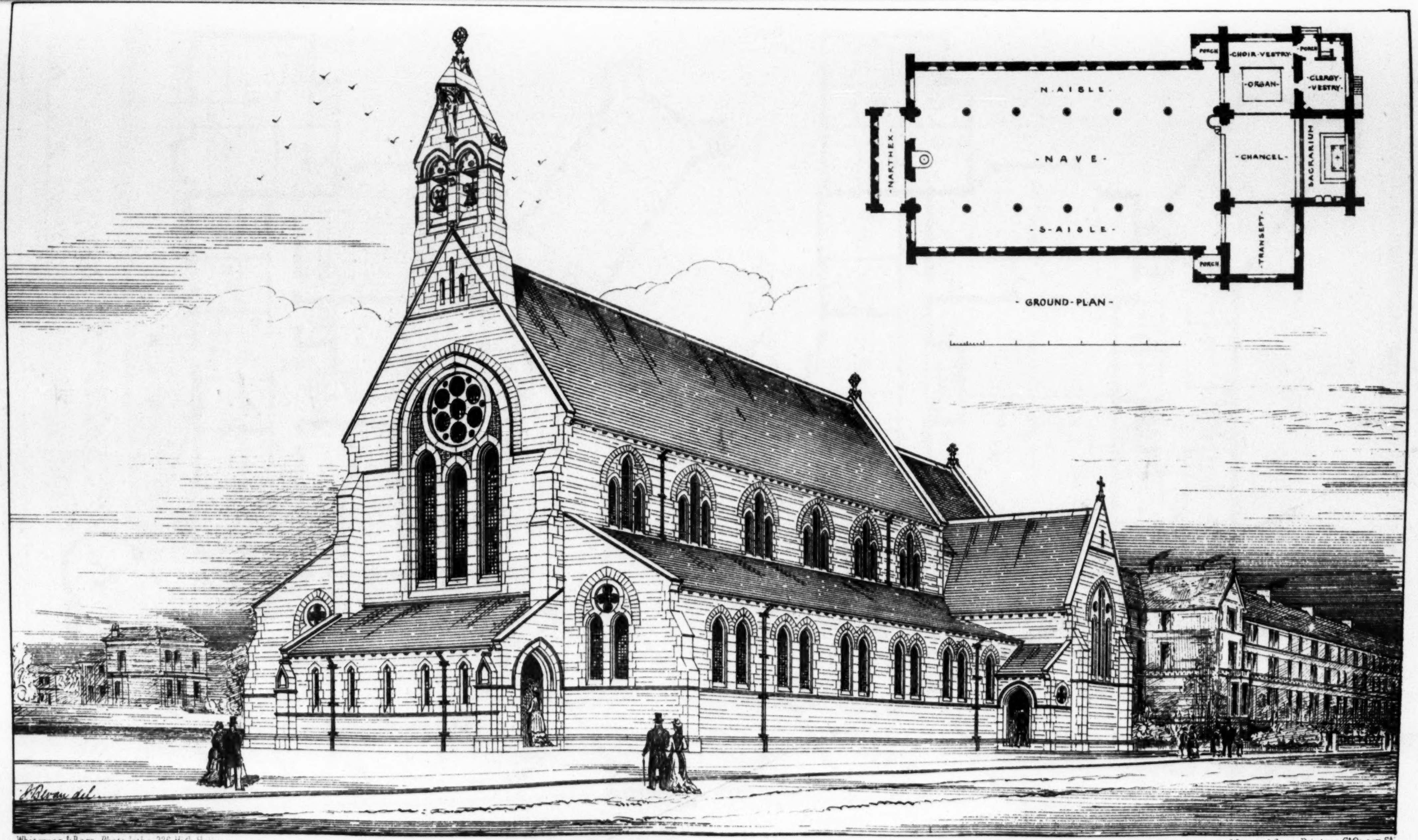




THE RUSSIAN CHURCH, DRESDEN.—Herr Harald Julius von Bosse, St. Petersburg, Architect.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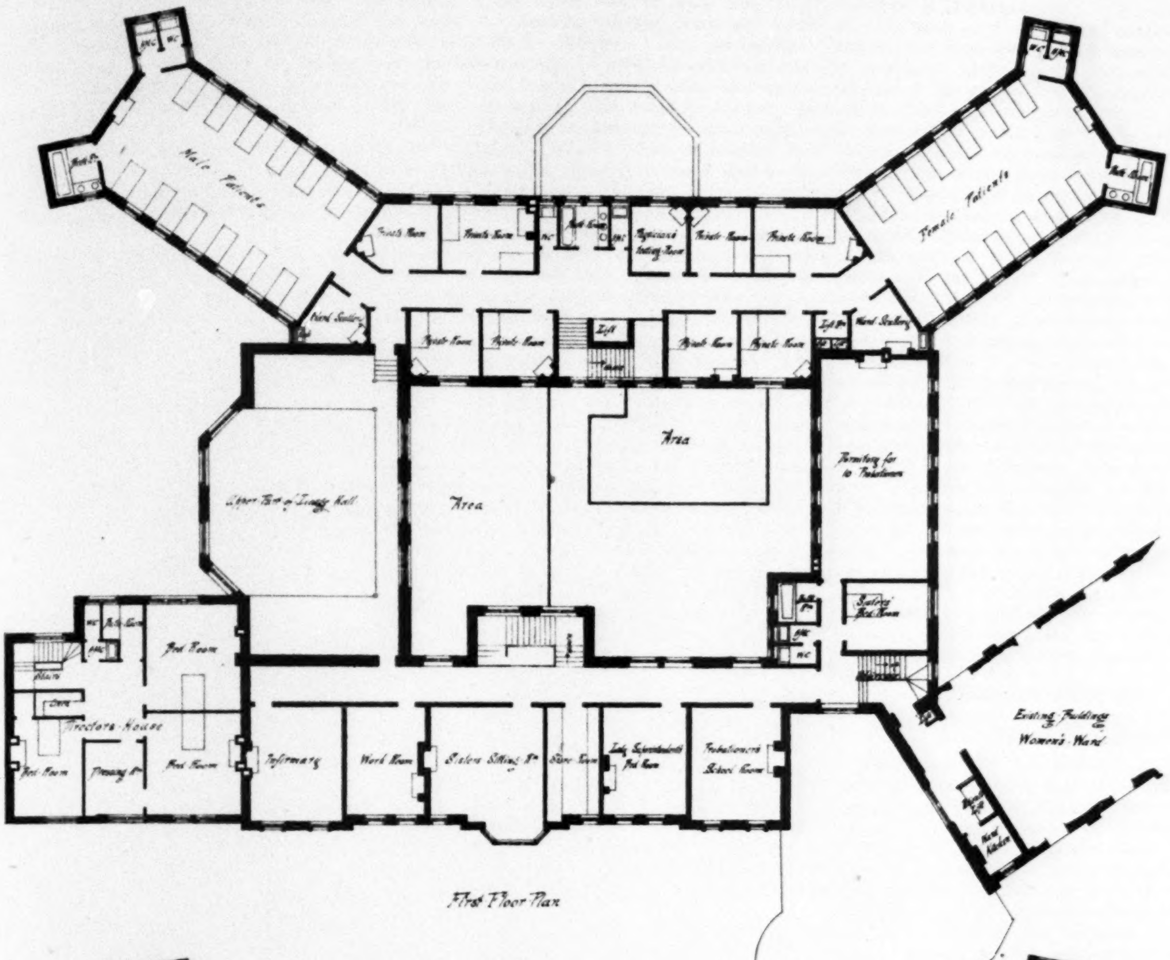
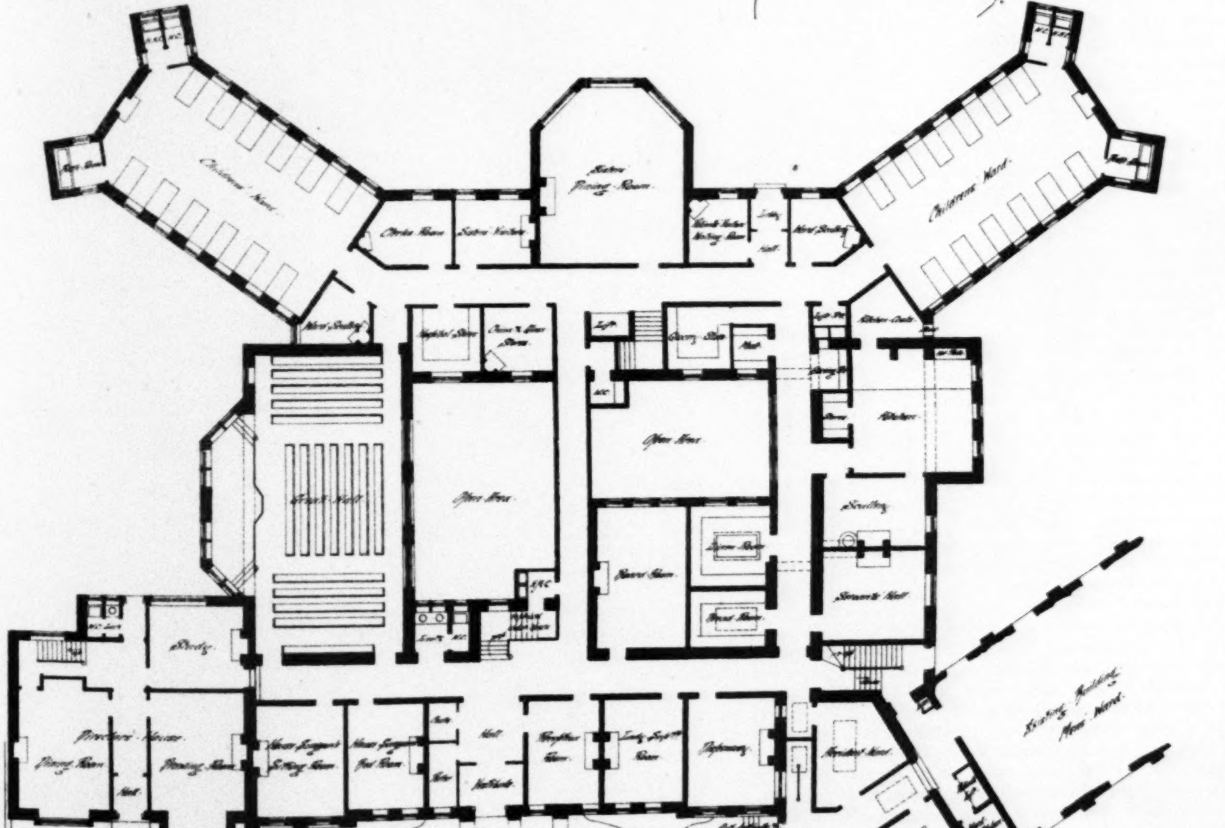
PROPOSED CHURCH OF ST. SAVIOUR, WOOLCOT PARK.—MR. JOHN BEVAN, ARCHITECT.

EVANGELICAL PROTESTANT DEACONESSES' TRAINING HOSPITAL, TOTTENHAM.


W.C.
Bath R^m
Male Patients
Female Patients
Private Room
Bath Room
Physicians Sitting Room
Ward Scullery
Lift
Area
Upper Part of Lecture Hall
Dormitory for 10 Probationers
Sisters' Bed Room
Bed Room
Directors House
Dressing R^m
Infirmary
Work Room
Sisters Sitting R^m
Store Room
Lady Superintendent's Bed Room
Probationers School Room
Existing Buildings Women's Ward
Ward Kitchen
First Floor Plan


W.C.
Bath Room
Children's Ward
Clerks Room
Sisters Visitors
Sisters Dining Room
Lobby
Hall
Ward Scullery
Hospital Stores
China & Glass Stores
Lift
Lecture Hall
Store
Kitchen
Scullery
Servants Hall
Study
Directors' House
Dining Room
Drawing Room
House Surgeon's Sitting Room
House Surgeon's Bed Room
Hall
Porter
Vestibule
Lady Supt^nts Room
Infirmary
Accident Ward
Existing Buildings Men's Ward
Ward Kitchen
Ground-Plan
Scale of feet

Wyman & Sons, Printers, G^t Queen S^t.

THE EVANGELICAL PROTESTANT DEACONESSES' INSTITUTION AND TRAINING HOSPITAL, TOTTENHAM.

WE give illustrations of the design selected in the recent competition for the above proposed building submitted by Mr. E. C. Robins, F.S.A., being a perspective view of the principal front towards Tottenham-green, and plans of ground and first floor.

The line of frontage is nearly the same as that of the old building, which is to be removed, leaving only the more modern men and women's wards, which will be incorporated with the new structure.

A quadrangular arrangement has been adopted. The administrative block is that shown in the view given towards the west; at the northern end of which is the director's house, and at the southern end the out-patients' block of single-story buildings. The hospital block faces the east, and the fine garden grounds in the rear, and is connected with the front block by the assembly-room in the northern side of the quadrangle, and by the kitchen block on the southern side.

There are five entrances from the public road, viz., the entrance to the director's house, the principal entrances in the centre of the administrative block with *porte cochère*, the accident ward, the out-patients', and the carriage entrance to the rear of the hospital block beyond the old wards.

The administrative, or western block, is three stories in height (except where a basement occurs at the southern end), in the centre of which is the principal entrance; on the left is the porter's room and the apartments of the resident surgeon; on the right is the reception-room, the lady superintendent's room, and the dispensary.

On the eastern side of the corridor are the chief staircase, the board-room, the linen and bread store-rooms, lavatory, and w.c.

The rooms over, on the first floor, are the separation ward, the workroom, the sisters' sitting-room, the lady superintendent's room, and store-room adjoining, all overlooking the green.

The sisters' separate bedrooms for thirty sisters, with bath-room and w.c., occupy the second floor.

The usual accommodation is given to the director's house.

The out-patients have a large waiting-room, to be entered by the accident-ward entrance or round the south-west corner next the old wards. Conveniences for both sexes are provided. The semicircular room at one end is the consulting-room with two doors. There are entrance and exit doors from the waiting-room to the wide corridor, between it and the accident ward (lighted by skylights), whence patients can leave by the accident entrance or pass on to the the dispensary double-hatch, returning round railing provided, and then out either by the way they came or by the accident entrance. These out-patients will not enter the building beyond the dispensary lobby, on the other side of the closed end of which is the sisters' dispensary hatch. An out-patients' ticket-office is provided.

Accident cases, on stretchers or otherwise, enter by the wide doorway, and can be taken at once through the corridor into the men's wards, or by the lift fitted up in the old hospital lobby to the women's ward, first-floor.

The present staircase here is to be removed, and the new staircase at the south end of the western corridor to be used instead, access being arranged therefrom to both the old and new buildings. A food-lift is also provided, and ward kitchens, one over the other, where shown.

Alongside the accident entrance are the steps to the basement, in which are the various store-cellars, heating and steam pumping apparatus from the deep well, &c.

The southern block contains the servants' hall, and kitchen, scullery, and other domestic offices. A special coal-cellar is provided for the kitchen use, and a food-lift for patients in the hospital block, balanced by a coal-lift adjoining.

A sisters' serving-lobby communicates by a hatch with the kitchen, in easy communication with the sisters' dining-room, which is in the centre of the ground-floor of the hospital block, overlooking the grounds, which contain some fine old trees. Over the kitchen offices are the ten probationers' dormitory and bath-room, on the first floor, and the servants' dormitories, &c., on the second floor.

The hospital block, on the eastern side of the quadrangle, is two stories high, and contains four large sick-wards, for twelve beds in each, allowing, 1,200 cubic feet to each bed, with the usual overlooking nurses' room and ward scullery to each. Those on the ground-floor are children's wards. It will be observed that the axis of the wards is nearly north and south, but that, to obtain the cross-ventilation by windows (which is so necessary occasionally to resort to, and which no other ventilation can entirely supersede, though it must not be exclusively depended on), they are set at an angle parallel with the old wards, as shown.

The bath-rooms, lavatories, water-closet, and slop-closets are situated at the angles of the wards, and are not only cross-ventilated, but the lobby has inlets and outlets for warmed air, raising the temperature above that of the ward, so that the tendency shall be to withdraw the air from the ward, and not the reverse, as is far too common.

Open fire-stoves, with fresh warmed air passing vertically through them, are in every ward, which is also heated by the waste steam from the steam-pump boiler after it has served the kitchen for cooking purposes. On either side of the sisters' dining-room are the patients' visitors' and sisters' visitors' waiting-rooms, clerk's office, medical and hospital stores, &c. The staircase is in the centre of the western side of the block. The patients' lift occupies the well-hole, and is easy of access, either from the rear garden carriage-entrance, or from the main front entrance, by the covered corridor across the quadrangle.

The first floor of this hospital block contains the first and second class wards and separate chambers for paying-patients of both sexes. The sick wards are like those below, but between them are arranged the private room wards, with lavatory and water-closet, &c., opposite the staircase.

The northern enclosure of the quadrangle is formed by the large hall for 250 persons, which is accessible from the first floor to the galleries provided.

The simplest materials will be used in the construction generally, dependence for effect in the design being entrusted to the general outline and to its fitness for the ends in view, rather than to expensive details.

Arrangements are to be made for withdrawing the vitiated air and warming the incoming fresh air, and for producing in all seasons a continued exchange of pure for expired air. The sanitation of the building generally will otherwise be attended to.

ST. SAVIOUR'S, WOOLCOT PARK, BRISTOL.

THE consecration of this church, with the exception of the part unfinished on the south side, has taken place recently, and we now give an interior and an external view of it. The church has been erected from the plans of Mr. John Bevan, of Bristol, whose design was selected in a limited competition on the award of the late Mr. Benjamin Ferrey, F.S.A. Mr. Bevan had previously identified himself with the ecclesiastical architecture of the city by the churches of St. Nathanael and St. Werburgh, Baptist Mills. The style of architecture of St. Saviour's is Early French Gothic of a massive type, and having to depend for effect more upon the proportions of his building than upon ornate carvings or elaborate decorations, the architect has been very successful in his design. At the west end, and springing from the gable, is a lofty bell-turret containing two bells, and with a canopied niche at the apex containing a figure of our Lord as the Good Shepherd. The principal entrance is through a narthex at the west end. The width of the nave, with north aisle, is 41 ft., and the length 93 ft., while from the floor to the apex of the roof is 38 ft. The chancel is 38 ft. long by 25 ft. wide and 52 ft. high, having on the south side two sedilia, piscina, and credence-table; and on the north side an aumbrye, or locker. The nave is divided from the aisles on either side by six arches and columns with capitals. The chancel-arch is 20 ft. wide and 38 ft. high to the point of the arch. The nave and aisle roofs are open-timbered, with plaster between the rafters; and the chancel and organ-chamber roofs are boarded with moulded ribs, dividing them into bays and panels. The whole of the roof-timbers are left without stain or varnish upon them, with the hope of their being stencilled with colour at no distant date. The nave is lighted by two-light windows in the aisle-walls, and by three-light windows in the clearstory. The west window of the nave and the east window of the chancel are large and, though somewhat severe in treatment, handsome, and thoroughly characteristic of the period of work adopted. These are all filled with cathedral glass of pale tints, in geometrical patterns, by Mr. Ben Gray. The church is paved throughout with tile, that in the chancel being more ornamental than the rest. The pulpit is octagonal in form and divided into panels, with columns of polished Devonshire marble, supporting carved capitals at the angles; Irish green and other marbles being used for inlays. The centre panel contains the subject of the Sermon on the Mount, the other panels emblematical foliage. The re-table is of alabaster, supporting a cross, with a dossel behind it. The steps to the sacrarium are of polished Devonshire marble, presented by the builder. The warming of the church is by means of hot water, circulating at low pressure; this portion of the work having been carried out by Mr. Vincent Skinner. The carving, so far as it has gone, was executed by Mr. Sheppard. The builders are Messrs. Cowlin & Son. Their contract for the building as it now stands was 4,100*l*., but they are bound under an agreement to complete the entire building for a further sum of 739*l*., should they be called upon to do so within a period of one month from the present time; but these sums do not include heating apparatus, pulpit, lectern, and other fittings.

BUILDING IN BERLIN.

BERLIN, which has doubled its population within twenty years, and which now numbers nearly 1,200,000 inhabitants, has naturally in recent years been the scene of very extensive building operations. A statement which has just been presented to the municipal authorities helps to give some idea of the scale upon which the building trades have been recently employed in the capital of the German empire. The chief burgomaster, in proposing to the Council the issue of a new Four per Cent. Municipal Loan for 45,000,000 marks, or 2,250,000*l*. sterling, gives a survey of the city expenditure on the new systems of drainage, &c., since the year 1875. It appears that upon that object the total sum spent within the past seven years has been 71,600,000 marks, or 3,580,000*l*. sterling. The municipality had purchased eleven large estates in the vicinity of Berlin for the purpose of receiving the sewage of the capital, and the expenditure on them had been 21,500,000 marks, or 1,075,000*l*. sterling. Since the year 1878 no less than 10,580,000 marks (529,000*l*. sterling) had been expended on new bridges in the city over the various arms of the river Spree. The Central Police Office is another work the city is about to undertake, the total cost of which will be 300,000*l*. sterling. Three new infirmaries or hospitals, having a total of 1,000 beds, are also to be built, at a total cost of 175,000*l*. sterling. The new waterworks, only built a few years ago, are already insufficient to supply the wants of the growing city, and are to be enlarged, at a cost of 130,000*l*. The great Central Cattle Market, commenced in 1878, has already had 550,000*l*. spent upon it, but will in the end cost a considerable additional sum. It is also intended shortly to commence new and extensive market-halls, for which the Council are asked to grant 500,000*l*. sterling as a first instalment. A sum of 87,500*l*. is also asked for new streets. Another great work, which was only completed a few months back, is the City Railway,—an inestimable boon to the inhabitants, who, in spite of the increase of tramways and omnibus lines, would have been badly off for the means of travelling from one part of the city and suburbs to another but for the new Stadtbahn. The increase in the number of dwelling-houses is quite on a par with the progress evinced by these great public works. Berlin every year requires sufficient new dwelling-houses to accommodate nearly 30,000 people.

EDWARDS, ARCHITECT.

SIR,—Could any of your correspondents oblige me with a few particulars of an architect of the name of Edwards, who built Tehidy House, in Cornwall, for the Basset family, about the years 1734—1736? WALTER H. TREGELLAS.

AT THE HORTICULTURAL EXHIBITION, ISLINGTON.

The Agricultural Hall at Islington, which seems to have found a secondary mission as a shelter for an apparently interminable series of trade exhibitions,—some of them much better organised and more generally interesting than others,—is now extending its hospitality to the sister art of horticulture, and the Horticultural Exhibition and Market which was opened on Monday last, and which is to close on Saturday next, August 5, is not the least interesting of the recent displays in the hall, although neither so large nor (apparently) so energetically managed as might be desired. It contains some good things, and everybody who is fond of doing a little in the way of gardening and plant-rearing, even in murky London, may pick up some useful hints as to the best way of making his too often too small bit of ground, or his windows, bright with foliage and flowers. The exhibition is the first of its kind that has been held in the Agricultural Hall, and is, therefore, in some sense, an experiment.

Mr. W. H. Lascelles, of Bunhill-row, whose stand (C) occupies the centre of the hall, shows a convenient span-roof plant-house, fitted with a newly devised plant-stage formed of concrete slabs, 3 ft. by 2 ft., resting on iron bearers and placed close together, the outer edges being fitted with a neat red concrete kerbing. The exhibitor claims for this staging, and no doubt justly, much greater durability than that possessed by the wooden stagings ordinarily used; and he urges as a further recommendation in its favour that, being devoid of the interstices of the wooden stagings, the plants are not so likely to be injured by being over-heated, although means are taken for promoting the circulation of the warm air around the plants by placing the staging a few inches away from the windows of the house. The red pebble-pattern concrete tile floor here shown is cheap and admirably adapted for the floors of greenhouses and conservatories, as visitors can always walk over it dry-shod. The red concrete steps leading up into the conservatory should also be looked at. They have moulded nosings, so as to reduce the chances of chipping to a minimum, and durability is ensured by the embedding, in the top face of each step, of an ornamental cast-iron grille, the upper side of the iron being flush with the surface of the concrete which fills in the interstices of the grille. This combination of cast-iron and concrete presents the appearance of inlaid work, of which it may, indeed, be said to be a variety, and the effect is very good, while, of course, the durability of the step is largely increased. The locks and latches used in this conservatory are made entirely of brass, which, in the opinion of the exhibitor, is the only proper material to be used for conservatory door-fittings if they are intended to resist the effects of warmth and moisture. The walls of the plant-house exhibited are impermeable, being built of Potter's slabs filled in with concrete. Mr. Lascelles's new concrete lumps for garden rockwork, recently described in our columns, are shown, but as they are not built up it is not easy to judge of their effect. Possibly they may look all right when so arranged in conjunction with ferns or other plants. Mr. Lascelles has other things on view, but we must hasten on. Mr. James Perry, of Banbury (Stands 2 and 3), shows a large conservatory with side stages and simultaneous ventilating gear. At Stands 6 and 7, Messrs. W. & S. Deards, of Harlow, show their patent "Victoria" system of glazing, as applied to a large one-span-roof vinery. The Coalbrookdale Company occupy a large space (8, 9, 45, and 46) with some very excellent cast-iron work, including a very pleasant garden or summer house, a large fountain suitable for a park, several smaller fountains, and a variety of good vases and pedestals, flower-stands, garden-seats, &c. This company's work is characterised by remarkable smoothness of casting, and the designs are, in nearly all cases, well adapted to the purposes of the articles exhibited. At Stand 10, Messrs. F. Rosher & Co. have on view a large collection of vases, fountains, statuary, and other objects for the decoration of gardens, all executed in artificial stone; they also show a variety of garden border-edging tiles. At the next stand, Messrs. Messenger & Co., of Loughborough, show their "Loughborough" boiler, which possesses some good points, and, among other things, a new plant protector, the lower portions of which are made of slate or rough plate glass. Mr. J. Trotman (Stands 15, 16, and 17) is a large exhibitor of rustic arbours, summer-houses, garden-seats, &c. At Stand 18, Mr. James Keith, of Edinburgh and Arbroath, exhibits his patent "Challenge" and other boilers for hot-water heating, which deserve the attention of visitors. Messrs. Bailey, Pegg, & Co. (Stand 19) are exhibitors of a great variety of boilers, pipes, and other fittings for heating conservatories. At Stand 21, Mr. J. Matthews, of the Royal Pottery, Weston-super-Mare, has a good display of terra-catta vases, pedestals, fountains, and a variety of smaller requisites for the garden and greenhouse. Messrs. Grover & Co. (Limited) show, at Stand 23, the "Simplex" glazing, effected by means of lead strips, without putty. At Stands 27, 28, and 29, Messrs. Andrew Handyside & Co., of Derby, are large exhibitors of fountains, vases, garden-seats, &c., all in iron. At Stand 33, Messrs. Pulham & Son, of Broxbourne, are exhibitors of terra-cotta balustrades, vases, pedestals, and fountains; they also show their method of rock-work construction. At Stands 34, 39, Messrs. Deane & Co., of King William-street, have a good display of garden furniture, lawn-mowers, &c. Messrs. Piggott Bros., of Bishopsgate-street (Stands 36, 37), have a large display of very pleasant and useful marquees, garden tents, &c. At Stand 38, Messrs. Dick Radclyffe & Co., of Holborn, show some attractive window conservatories or plant cases. At Stand 49, Mr. James Lewis, of Stamford-hill, is an exhibitor of horticultural buildings, as are also Messrs. T. H. P. Dennis & Co., of Chelmsford, who (Stand 52) have some things well worth looking at. At Stand 78, Messrs. Ewart & Son show some good window conservatories; and at Stands 84 and 85, they have on view a variety of fern-cases, window-boxes, tiles, &c. At Stands 95, 96, and 97, Messrs. Wrinch & Sons, of Ipswich, show a conservatory, a summer-house, and a number of plant-frames. Messrs. Richardson & Co., of Darlington, have on view, at Stand 122, some good things, including an improved plant-frame. Messrs. Tracey & Son (Stand 127) exhibit their method of glazing without putty, while yet another means of effecting this (the "Eclipse") is shown by Mr. B. W. Warhurst, at Stands 158, 159; indeed, the number of ways in which inventors have sought, or are seeking, to dispense with putty is getting beyond computation. No plan of attaining the desired end is better established or more largely used than Messrs. Rendle's patent system shown at Stand 166. Messrs. W. T. Allen & Co. (Stand 161), are exhibitors of garden-seats, window conservatories, &c. At Stands 167, 168, the Thames Bank Iron Company are large exhibitors of good serviceable cast-iron tubular boilers, vertical and horizontal, together with saddle and conical boilers, piping, valves, connexions, and all requisities for heating horticultural and other buildings.

Having now made the round of the Exhibition, and pointed out some of the chief exhibits, we leave to our readers who may visit the Exhibition the task of finding out for themselves numerous other things of interest which we have not space to notice.

THE PROCEEDINGS OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The journal of "Proceedings" just now issued (No. 18) is particularly interesting, not to say important, and we wish to commend it to the attention of our readers. It includes the correspondence in the matter of the proposed improvements at Hyde Park Corner. A letter is printed from the Manchester Society of Architects, suggesting that the Council and officers of the Institute should be elected by ballot-papers, so that the country members and town members may have an equal voice in the election. This would be quite contrary to the *spirit* of the charter, even if the *letter* of it were met by the device. Beyond these, and even more important, will be found various communications presented to the Special Committee on Light and Air, and their preliminary report. These communications are from Mr. Whichcord, Mr. Arthur Cates, Mr. E. N. Clifton, Mr. J. J. Darley, Mr. W. G. Harrison, Q.C., Professor Hayter Lewis, Mr. Locock Webb, Q.C., and Mr. J. Leybourn Goddard, Barrister-at-Law, and ought to be read by every member of the profession, especially as this can be done at the cost of a shilling.

FOREIGN NOTES.

Discoveries at Epidauros.—An important discovery was made some time ago at Epidauros of the remains of a theatre, which holds the second rank as to size of the edifices of this kind in Greece, the record of which has come down to the present day. Its special excellence consisted, however (according to Pausanias), less in its size than in the completeness and harmony of the structure, which he considers as fitly illustrating the characteristics of its architect, Polyclete.

The Greek Archæological Society were fortunate in their explorations made last year on this spot, which has long been known to be rich in antiquarian treasures. Almost the whole of the auditorium and orchestra was traced, and from the details which have since appeared in an Athenian journal, there must have been accommodation for no less than 16,000 spectators in the theatre. The external periphery of the row of seats farthest from the stage is estimated as having been nearly 700 ft. There seems to have been a spacious gangway dividing the commoner places from those of a superior class. Traces of a promenade outside the exterior row of seats have likewise been discovered.

Cologne Cathedral.—The chief work which remained to be done after the building operations were completed in October, 1880, was the removal of the scaffolding then on the towers, which was more than 500 ft. in height, and contained about 44,000 running yards of wood. By the middle of May, 1882, the towers had been almost completely freed from scaffolding, and this difficult task had been carried out without any accident. There was a quantity of masonry work to be done in closing various openings, &c., which had been made in the walls for the purpose of hoisting up materials, &c. Much of this had to be done upon the removal of the main scaffolding. The immunity from accident to which allusion has been made is all the more remarkable when the dangers attending these finishing touches of the work are considered, most of this labour having been done by men suspended from above in hanging seats. There are still various matters in the interior which will occupy the present reduced staff of workmen for the remainder of this year. There has been a movement on foot for the acquisition of the houses which prevent the full extent of the building from being freely exposed, and for the lottery organised in connexion with the restoration being extended for a further period in order that the funds may be raised for the purchase of this property. If this idea is carried out, the plan of having the cathedral approaches laid out in the most suitable manner will be practicable, and thus the city will gain a material addition to its ornamental features. The designs (from Biblical subjects) for the stained-glass windows which it is proposed to place in the lower portions of both towers, are being prepared by Professor Klein, of Vienna.

The Restoration of Ulm Cathedral.—Some of the leading architects of Germany and Austria recently met to consider various proposals for the carrying out of this work. Their object was principally (according to the *Kölnische Zeitung*) to consider how to strengthen the foundations and certain portions of the masonry in such a way as to carry out in the restoration the plans of the original architect, Böblinger. The cathedral architect, Professor Beyer (whose opinion is founded upon the calculations of Professor Bauschinger, and upon his own observations) recommends in addition to certain masonry work, the use of iron for strengthening the tower, and giving it the needful solidity. There are to be models prepared before the work of restoration is earnestly taken in hand. The kingdom of Wurtemburg has contributed within late years four million marks (200,000*l.*) for the purposes of this restoration, but a donation from the Imperial German exchequer is also expected. The works in connexion with the tower will, it is expected, occupy at least three or four years. A view will be found in an earlier volume.

Excavations at Hamburg.—The works in connexion with the new Exchange at Hamburg have necessitated excavations to a depth of 21 ft. below the level of the Altenwall and the Adolfsplatz. Some time ago a mass of concrete 42 in. in depth was placed in this excavation, and having gradually hardened during last winter, building operations upon this foundation have since become practicable.

The objects discovered during the progress of the above works have been of a specially interesting character, as the marine animals,—mussels, &c.,—discovered, go to prove that at one time the North Sea deposited its living denizens on the spot where the busy emporium of North German commerce now stands. Numerous remains of ancient walls have been found, some of them in a fair state of preservation, which throw light on some hitherto unsettled points in the municipal history of the city.

CONTINENTAL ARCHITECTURAL PUBLICATIONS.

RECENT improvements in various forms of illustrative art have done much to encourage the development of literary enterprise in connexion with architectural research. The range of this extensive subject has afforded ample scope for the efforts of those intelligent workers who have chosen particular subjects for their respective themes, and in many cases there has been contributed a sum of artistic information which enables the careful observer to grasp, without difficulty, many salient points affecting subjects of the highest interest. Thus, without any evident co-operation on the part of the various writers, our information on several important branches of art-history is more complete than might be supposed.

Capacity of observation, combined with clearness and precision of description, is, perhaps, one of the most striking features of Continental (more particularly German) artistic literature; and as no branch of art is more capable of gaining advantage from the lucid treatment of its history than architecture, a cursory glance at several recent foreign publications may not be unprofitable.

The capital of the Austrian Empire is known to contain many objects of interest to the student of architectural history, many of which are called to mind by the illustrated volume in course of publication at Vienna, in which Herr Neumann, jun., has (by means of photographs) reproduced such works as the portal of the Lichtenstein Palace, the vestibule and staircase of the palace of the Hungarian guard, &c. The former was executed by Luke von Hildebrand, and the latter by J. E. Fischer von Erlach. It is evident that the period during which these architects flourished was also fortunate as to artists skilled in plastic decoration. In the portions of the work already issued, the Geymüller Palace, and that of Prince Kinsky, have also been portrayed, as well as the portal of the Rathhaus in the Wipplinger Strasse.

The merits of the more recent school of Viennese architecture (which, in a great measure, owes its development to the important municipal improvements of late years) have been duly recorded in a work dealing with the private and public buildings of modern date in Vienna. In the latter category, the Opera-house and the Palace of Justice have been chosen for illustration in the first place. These two buildings afford an interesting contrast, the former being in the richly-developed style of the early French Renaissance, while the latter displays the more massive character of the German Renaissance Some of the leading architects of the capital have been assisting in the production of this important and valuable work; amongst them, Tischler, Von Lützow, Obermayer, Bültemeyer, and Ibrachowina.

Artistic enterprise has, however, not been confined in Vienna to the delineation of the features of interest within its own walls, but has furnished a contribution of general value to architectural literature in the shape of a work dealing with a number of interesting buildings in all parts of Europe. It includes representations of the Marini Palace at Milan, the Alcazar at Toledo, the Rathhaus at Augsburg, the Belvedere at Vienna, the Bevilacqua Palace at Verona, the gate of Salamanca University, the Campanile of San Giorgio at Verona, &c. The intention of the work is partly to disseminate, by means of photographic reproduction, such plans or representations as are only to be met with in rare works, and the more extended circulation of which would be of practical value to the profession.

Germany has lately done a good deal of service in the direction in which the Austrian technical world has been displaying commendable activity. In a volume entitled "Palace Architecture of Upper Italy and Tuscany, from the Fifteenth to the Seventeenth Century," Professor Reinhardt, of Stuttgart, has thrown light on an epoch of considerable artistic interest. The work on which Professor Nicolai of Dresden was engaged until his death, has been continued by Henmann. It deals with "The Ornamental Features of Italian Art during the Fifteenth Century," and serves to illustrate many points dealt with in Professor Reinhardt's work. The clearness of outline necessary for the efficient delineation of the delicate ornamentation of the period indicated has, it is remarked by a Berlin journal, been most successfully accomplished in the photographs accompanying the volume. These have been taken under the immediate direction of an architect of undoubted skill, whose opinion as to scale and position has evidently been of great assistance in the somewhat difficult task of reproducing such works as are contained in it.

The German Renaissance is, however, the period of artistic history which seems to have recently received most attention in that country. Amongst the most noted specimens of this epoch is the portal of the castle chapel at Dresden, which justly occupies a prominent place in Herr Fritsch's work, "Monuments of the German Renaissance." Various other objects of interest are depicted, such as the Castle of Aschaffenburg, the façade of the Salzhaus at Frankfürt-on-Main (with its curious wood-carving), &c. The Munich Renaissance has been treated as a separate topic by Herr Bauer, who has collected much interesting information on that subject.

In conclusion, there has to be recorded the volume due to the joint exertions of three Dresden architects,—Haenel, Adam, and Gurlitt,—which deals with the castles and family seats of the kingdom of Saxony. Though some buildings of modern date are illustrated, many of the ancestral castles depicted are of the period of the German Renaissance. The photographic representations of Kriebstein, Ehrenburg, Moritzburg, and other seats are spoken of as being particularly striking, the delineation of the Albrechtsburg, at Meissen, also doing full justice to the architectural features of that historical structure.

THE LARGEST LOCK IN THE WORLD.

It will be of interest to all those who either support or oppose the scheme for a ship canal to Manchester to know what is, at present, the largest lock in the world. In a statement recently submitted to the Congress of the United States this is said to be on the St. Mary's Falls Canal. "The canal is slightly over one mile in length. There are two locks to overcome the same elevation, one being the largest in the world. It is 515 ft. in length, 80 ft. wide, and 18 ft. lift." The estimated yearly expense of working it is 25,000 dollars. On the Louisville and Portland Canal, which is 2·15 miles long, are two locks 372 ft. long and 80 ft. wide, with 12 ft. and 14 ft. lifts. These locks were worked by hand in 1879; 3,168 vessels of all classes passed through the canal in that year. A tow-boat, a dock, and steam-dredges are maintained. The expenses for 1879 were 30,928 dollars, of which 14,453 dollars were for dredging. The North Sea Canal is stated in the same report to be sixteen miles in length, and from 130 ft. to 400 ft. in width. The level is below that of the sea. There are two sets of locks of large dimensions, and an artificial harbour constructed under great difficulties. The depth, originally 23 ft., is to be increased to 26 ft. by 1884. The cost of the work was 10,800,000 dollars. From November, 1877, to August, 1879, 4,862 vessels passed through the canal. The working expenses for the only year for which they have been obtained were 75,569 dollars. There are eight miles of canal to each lock-lift. On the Des Moines Canal, 7·6 miles long, there are three locks, suitable for the longest steamers on that river. The annual expenses are above 30,000 dollars, including a large amount for dredging. A detailed estimate of the number of minutes occupied in each of the eight operations involved in the process of going through one of these large locks amounts to 20¼ minutes. At St. Mary's Falls the approaches are not completed, and cause material delays, yet lockages do not occupy half an hour each. The reporter concludes thus:—Probably, in almost every location where water is to be had, a better ship-canal can be made with a few locks, and at a far less cost than a sea-level canal. A small part of the money saved by the locks will, in most cases, make a broad and deep canal, where ships can go safely and rapidly, and pass each other anywhere without delay; instead of narrow deep cuts, commonly dangerous and always expensive, where ships must move slowly, and wait to pass each other. The question must be decided in each case whether the large amount required for the construction of a lock will save a larger amount some other way, and whether the delay at each lock will save a greater delay in some other way.

THE HISTORY OF ARCHITECTURAL DRAWING.

DID the Greeks and Romans, our masters in architecture, make drawings of the edifices they designed? Was the art of architectural drawing in existence among them? The question is one which we have no means of satisfactorily answering, but the researches of the most competent authorities make it clear that the ancients followed some different practice from the usage of modern architects in this matter. It can only be conjectured what their method was. It appears probable that drawing was not practised, and that instead of that it was the custom of the architect to make a model of each edifice he designed. The actual construction was carried out under the designer's own direction, he being present and himself prescribing every detail of the work, the measurements and the profile, to the operative masons and sculptors, and often executing portions of the work with his own hand. We have, however, proof that the art of drawing plans was not altogether unknown to the Romans. Paper, in the modern sense of the term, did not exist, but, in place of it, plates of marble were probably employed. The remains of at least one ancient sketch has, in fact, been preserved to us. We refer to the fragments of the plan of the ancient city of Rome, which are built into the wall upon the staircase of the Capitoline Museum, and to another tablet lately discovered. The age of these fragments cannot be placed later than the times of the Emperor Severus or Antoninus. The relics are, moreover, of value, as they make known to us the existence of certain buildings of which we otherwise have no trace. The next oldest relic of a similar kind which has come down to us is that of the Abbey of St. Gallen. This contains, on parchment, the drawing in simple lines of the normal plan of a monastery, with all the buildings belonging to it. The age of this document is certainly not later than the fifth or sixth century, and it was produced at the Court of the Frankish kings. After this, we find in the regulations of the lodges of Mediæval times certain strict directions enjoining upon builders the duty of exactly following the sketches of the edifices they are engaged upon. Another section prescribes that the rules for tracing and laying out of carved work, &c., are to be kept strictly secret. On the other hand, within the lodge, it is recommended that the fullest possible instruction should be imparted. By a very fortunate accident the old working drawings of the towers of the cathedrals of Cologne and Ulm have been preserved. They are believed to date from about the year 1350 A.D., and are now kept at Cologne. They were discovered by Herr Möller, who published facsimiles of them.

It is not before the age of the Renaissance that we have any architectural plans *in extenso.* Belonging to this period are the collection of hand-drawings in the Uffizi, at Florence. Lately, too, the architect, Von Geymüller, has published the plans of Bramante and Raffaelle for St. Peter's at Rome. These documents are mostly drawn with a pen in simple outlines on parchment or paper. From the sixteenth century the drawings which have come down to us are more frequent, and they are more complete in their style of representation.

With regard to the masters of the late Renaissance, we have a number of plans by Palladio and others. In the Museo Civico of Vicenza, Palladio's native city, there is a rich collection of his drawings preserved, They are on rough paper, and boldly drawn with the pen in sepia, and show a little shading. In the Church of St. Petronio at Bologna, at the end of the southern side aisle, there is a room with about thirty plans, by celebrated architects of the fifteenth to the seventeeth centuries, for a façade for that church. The style is mostly Gothic, a style which, however, was not understood by Peruzzi, Giulio Romano, and other masters of Late Renaissance. The non-Gothic drawings of Palladio and Alberti are better. Possibly there may be plenty of other old drawings scattered in different collections. In those mentioned, all that is attempted is the representation of the ground plan and façade. The style of representation is very simple, being only linear. The instruments and other aids to the draughtsman were, in the times we have spoken of, of a very limited and imperfect description.

It is only from the sixteenth century onwards, after the invention of printing and wood-engraving had rendered possible the publication of the works of Alberti, Vignola, and Palladio by Scamozzi and others, that complete architectural drawings date. It was only after the doctrine of projection had been worked out that architectural draughtsmanship was able to attain the perfection it presents in the present day.

THE BUILDERS' ACCIDENT INSURANCE (LIMITED).

The first annual meeting of this company was held on Tuesday last at the offices, 27A, King-street, Covent-garden, Mr. Stanley G. Bird, the chairman of the Board of Directors, presiding.

The Secretary for the Southern District, Mr. E. S. Henshaw, read the following

REPORT OF THE DIRECTORS FOR THE YEAR ENDING MAY 31, 1882.

1. The directors, in presenting their first annual report and balance-sheet, consider that the result of the first year's business is a matter for congratulation.

2. It should be remembered that the company was founded to insure its members against what was mainly a new risk, of the extent of which no one had any accurate idea.

3. The directors therefore, with the benefit of the information and statistics placed at their disposal by the various Builders' Associations, and of the opinion of those whose judgment was entitled to respect, fixed at the outset a scale of premiums which they considered, and the result has shown to be, amply sufficient. It may, however, be stated that other companies, who commenced business after this company, appear to have accepted a similar basis of calculation, as they at first charged a similar rate of premium.

4. Whilst some companies have offered, and continue to offer, to take risks at rates lower than those originally charged, and lower than those hitherto charged by this company, the directors did not consider that it would be to the interest of the members of this company to make any alteration in the rate of premium for the first year; and it is obvious that many reasons which have weight with the directors of a trading company, who have to show a large business and earn a dividend for shareholders, have no application to a company such as this one, established on mutual principles, where the insured themselves alone participate in the profits of the business.

5. The directors, however, with the experience of one year's business, have now reduced the rate of premium by 25 per cent., and on all re-insurances during the current year they hope to be able to allow a further rebate equal to 10 per cent. upon the amount paid in premiums upon policies existing on the 31st day of May last.

6. In order to meet the objections entertained by some members to disclosing the amount paid weekly in wages, the directors have arranged to insure an aggregate sum paid in wages; but they would impress upon members intending to avail themselves of this method of insurance, the necessity of being careful to note when the amount covered by the insurance has been expended, as the policy then expires, and the Company has no right, until a claim under the policy is made, to inquire how much of the amount covered by it has been actually paid away.

7. Up to the present time the directors have issued 329 policies, insuring an aggregate amount of 2,500,000*l*. per annum paid in wages, and they have received 130 notices of accidents from policyholders, of which 15, estimated at 600*l*., belong to the year ending 31st of May, and still remain for settlement.

8. From the annexed balance-sheet it will be observed that the preliminary expenses of forming the company amounted to 1,072*l*. 1s. 3d., which amount the directors propose to spread over a period of five years. After, therefore, debiting the present year with 214*l*. 8s. 2d., one-fifth of the preliminary expenses, and deducting the proportions of premiums upon current policies, attributable to the period subsequent to the 31st of May, there remains a balance of 2,704*l*. 13s. 4d. to the credit of the revenue account. This amount, however, is chargeable with the payment of the above-mentioned unsettled claims for compensation, for which the directors set apart 600*l*., leaving, say, 2,100*l*. as a net profit; out of which it will be for the members in general meeting, as provided by the articles of association, to vote such a sum for the remuneration to the directors as they may determine.

9. It rests with the general meeting to decide what bonus should be declared, but the directors recommend that it should not exceed 10 per cent. upon the amount paid in premiums up to the 31st of May last. The balance remaining should be carried forward to the credit of the current year.

10. The auditors, Messrs. Bunkle & Clulee, retire under the articles of association, but are eligible for re-election, and their remuneration must be fixed by the general meeting.

The following statements of account were also submitted to the meeting:—

GENERAL REVENUE ACCOUNT, May 31st, 1882.

Dr.	£.	s.	d.
To Claim Rrgister Account,— Compensation paid	329	1	3
,, Preliminary Expenses, viz.:— Printing, advertising, postages, show-cards, travelling expenses, salaries, legal charges, and incidentals, 1,072*l*. 1s. 3d., to be extended over five years	214	8	2
,, Working Expenses, viz.:— Advertising, printing, stationery, travelling expenses, postages, salaries, agents' commissions, rents, and incidentals	849	7	1
,, Law charges, estimated	105	15	9
,, Balance carried forward	2,704	13	4
	£4,203	5	7

Cr.	£.	s.	d.	£.	s.	d.
By total amount of premiums received from 1st of June, 1881, to 31st of May, 1882	5,863	9	3			
Deduct proportion for time unexpired on premiums running at 31st of May, 1882, as per register	1,695	14	4			
				4,167	14	11
By interest on investments				26	5	0
,, Bank interest				9	5	8
				£4,203	5	7
By balance brought forward				*£2,704	13	4

* *Note.*—This amount is subject to payment of the unsettled claims for compensation up to the 31st of May, 1882, estimated at 608*l*. 14s.

GENERAL BALANCE SHEET, 31st May, 1882.

Dr.	£	s.	d.
To Premium Account:— For proportion on policies running at 31st May, 1882	1,695	14	4
,, Creditors for claims ascertained, law charges, commissions, &c., and on general accounts outstanding	199	0	1
,, Balance revenue account	*2,704	13	4
	£4,599	7	9

* *Note.*—This amount is subject to payment of the unsettled claims for compensation up to the 31st May, 1882, estimated at £608 14s. 0d.

Cr.	£	s.	d.	£	s.	d.
By Investments:— Metropolitan Board of Works 3½ per Cent. Stock	2,111	17	6			
,, Dividends on do. outstanding	26	5	0			
				2,138	2	6
,, Preliminary expenses	1,072	1	3			
Deduct— One-fifth written off to Revenue Account	214	8	2			
				857	13	1
By Office Furniture				64	8	2
,, Balance at bankers' (South District)	621	5	10			
,, Petty cash in hands of Secretary (South District)	32	2	0			
				653	7	10
,, Balance at bankers' (North District) on Deposit Acct.	752	5	2			
,, Balance on Current Account	133	11	0			
				885	16	2
				£4,599	7	9

We have examined the foregoing accounts, with books and vouchers, and find the same correct.

(Signed)
Bunkle & Clulee, Chartered Accountants,
Auditors,
Birmingham, July 12th, 1882.

London, July 25th, 1882.

The Chairman, in moving the adoption of the report and balance-sheet, said,—Gentlemen, you have heard the report and balance-sheet read; it is now my duty to propose that they be adopted, and in doing so it is necessary that I should make a few remarks upon them. I think we may look upon the report as a very satisfactory one, especially as it is our first. You will find that the amounts that have been paid for compensation have been remarkably small, but I think it is only fair to tell you that you must not count upon our being so lucky in the future, because each day, almost, brings forth something which tells us that we must not rely upon our claims being so few or small in amount as hitherto. We find that in all cases that are contested the sympathies of judges and juries go very strongly with the plaintiff. There is a very great deal of judge-made law on the subject, and we find that the construction put upon the Employers' Liability Act by the judges is very different indeed from that which we were assured would be its scope when it was before Parliament. As you will remember, the National Association of Master Builders, by whom this company was started, opposed the passing of the Employers' Liability Bill, on the ground that its provisions were open to too sweeping an interpretation, but we were assured by the late Attorney-General, Sir John Holker, and others, that the liability of employers would be limited as far as as possible. As it is, we now find that the liabilities of builders under the Act are very much greater than we believe is the intention of the Act, and instead of liability being limited to accidents arising from want of proper supervision and direction on the part of foremen, we now find that builders are liable for mistakes or carelessness on the part of men to whom they delegate no responsibility. For instance, the effect of some recent decisions is that if an accident happen in the course of his work to a bricklayer's labourer, the employer is liable, the bricklayer being regarded as a man in authority over his labourer. On this and other grounds, the chances of the company making large profits in the future are becoming more remote, although, at the same time, the effect of such decisions as those to which I have referred is to render it still more incumbent on the part of builders that they should insure themselves against losses arising from accidents. No doubt, some of you have seen it stated in the newspapers that Mr. Broadhurst and others are agitating for the amendment of the Employers' Liability Act, in the direction of greater stringency against employers. I think that if the subject comes before Parliament again this company ought to cooperate with the National Association of Master Builders, with the view of obtaining some amendment of the Act in the interest of the masters. In one or two contested cases in which this company has been concerned, we have suffered very great hardship from the fact that the plaintiff's solicitor would not pay the hearing fees when the case was appointed to be tried, and the consequence has been that the judge would not hear the case, although we were at the expense of putting in an appearance with solicitor, counsel, and witnesses,—an expense which was, of course, futile; and this is a hardship which would be more felt by individual builders whose cases were not in the hands of this company. If, therefore, the Act is to be brought under review by Parliament, I think we, on behalf of the master builders, should seek to get the Act amended so as to make it compulsory that in contested cases the costs of hearing should be guaranteed or paid before the case is heard. This may appear to be a small matter, but it really bears very materially upon the prosperity of this company, and, indeed, upon the prosperity of the building trade generally. Although we have great hope and good grounds for believing that this company will continue to be successful, we must not be confident that its success will be so great, or that the claims upon it will be so few, as they have been hitherto. You will notice in the fifth paragraph of the Report that we propose to give a rebate of 10 per cent. off all premiums paid last year by builders who re-insure with us this year, and this, in addition to the reduction of 25 per cent. which we have now made on all new premiums. We find that the business of the past year has been so profitable that we should be able to declare a bonus, which we think should not exceed 10 per cent. upon the amount paid in premiums. We hope that the reduction which we have made in the rate of premiums will bring us a large accession of new business, and that the further rebate which we propose will be the means of causing all our friends to re-insure with us. I may say that up to the present time we have only had an intimation from one builder who declines to re-insure with us. During the year we have had a great many notices of accidents,—no fewer than 130. With regard to forty-seven of these, the time for giving notice had expired. Some of the cases were very serious ones, one of them involving a claim of 200*l*. We have settled seventeen cases in committee, and our solicitors have settled two other cases. Of the claims unsettled on the 31st of May, four have since been settled. There are still claims pending amounting to about 230*l*. I have no more to say, gentlemen, but beg formally to move that the report and balance-sheet be adopted.

Mr. Howard Colls seconded the motion, which was carried unanimously.

Mr. A. Thorn moved that a sum of 500*l*. be appropriated to the remuneration of the directors.

Mr. D. Cross seconded the motion, which was unanimously agreed to.

The Chairman, on behalf of himself and his colleagues, thanked the meeting, and observed that the directors had met thirty-five times during the year, the individual attendances being 275 in London and 97 in Liverpool, making a total of 372. These attendances were entirely independent of the almost daily attendance of himself and some of the other directors; nor did the figures include the numerous attendances preliminary to the formation of the company.

With regard to the question of bonus,

Mr. Cross said that the chairman had, in allusion to the comparatively small amount of the claims on the company during the past year, very wisely laid stress on the undesirability of assuming that they would be able to depend on the continuance of such favourable results as had already attended their efforts. He, therefore, proposed "That there be no bonus declared this year, and that there be no rebate allowed on last year's premiums." He thought that the considerable reduction which had been made in the rate of premiums was as much as any reasonable man could expect. He thought that it was desirable to have as large a reserve fund as possible, for a large reserve fund would beget confidence in the ability of the company to meet exceptional demands upon its funds.

Mr. Harrison seconded this motion, which was supported by Mr. Holmes-Wood.

The Chairman explained that the directors had suggested a bonus of not more than 10 per cent. upon the amount paid in premiums, because they felt that it was only right that those who had insured with them when the success of the company was only problematical, and who had paid larger premiums than were paid by insurers in other companies which had been established since this one was founded, should have some return for their outlay and risk. The company, it should be remembered, was based on the mutual principle, and they would be quite within their rights if they divided the whole of their profits, year by year, as they made them. If a bonus of 10 per cent. were paid, in addition to the extra rebate of 10 per cent. on last year's premiums to re-insurers, there would still be carried to the reserve fund, out of the profits of the past year, and after allowing for directors' remuneration and all other expenses, a sum equal to 17 per cent. of the total amount received in premiums during the past year.

Mr. John Robson moved, as an amendment, "That the sum of 10 per cent. on the amount of the premiums paid last year be returned to insurers as a bonus." He contended that unless this was done, they would be breaking faith with their customers.

Mr. A. Thorn seconded the amendment, which was supported by Mr. Holmes-Wood, who withdrew his opposition to this part of the motion.

On the amendment being put, thirteen hands were held up for it and only two against it. It was therefore declared to be carried, and was subsequently unanimously adopted as a substantive motion.

The Chairman asked whether the meeting intended to instruct the directors to allow to re-insurers the rebate of 10 per cent. off all premiums paid by them last year.

Mr. Harrison said that as the meeting had decided to abandon the principle of having a very large reserve fund, it was obviously to the interest of the company to get and to keep as much business as possible. He therefore begged to move that the directors be recommended to return to re-insurers a rebate of 10 per cent. on the amount of their last year's premiums.

Mr. Cross seconded the motion, which was unanimously adopted.

On the motion of Mr. Holmes-Wood, seconded by Mr. A. Thorn, Messrs. Bunkle and Clulee were reappointed auditors, and their remuneration was fixed at twenty guineas, inclusive of travelling expenses.

Mr. F. J. Dove said that up to the present time they had not required the services of their referees (Mr. George Plucknett, J.P., and Mr. Thomas Clay), but at the request of the directors those gentlemen had attended several board meetings, for which he moved that thanks be tendered them, together with an honorarium of ten guineas each.

This having been seconded by Mr. W. J. Adamson, and unanimously carried, Mr. Plucknett thanked the meeting on behalf of himself and his colleague.

Mr. Harrison, in moving a vote of thanks to the Chairman for presiding, said he thought the building trade of the country was to be congratulated upon the formation and success of the company. No better form of co-operation than that which it exemplified could be conceived, and he was glad to be able to gather that the claims which had been made upon the company hitherto had been met in a liberal and not in a litigious spirit, so that they were not likely, he hoped, to get the reputation of being hard task-masters, but rather that of being a corporation willing to deal with cases with the same consideration which they would all desire to show in their several and individual capacities.

Mr. Holmes-Wood cordially seconded the motion, which was put and carried in due form, and the Chairman having returned thanks, the meeting terminated.

PROPOSED TUNNEL UNDER THE ELBE.

UNDER the river Elbe, at Hamburg, it has been proposed to build a tunnel to connect that city with an island a third of a mile distant. The great Hanseatic city, which has hitherto been a free port, is shortly to lose that privilege, and to be included in the Zollverein or German Customs Union. It is intended, however, to make an exception in favour of the island in question, which bears the name of Steinwärder, and to permit it to retain the privileges of the free port. Large bonded warehouses will be built there for the accommodation of merchandise before paying duty, and in order to bring the island into closer connexion with the city, the above-mentioned scheme for a tunnel under the river has been started. The tunnel would be 500 mètres or nearly a third of a mile in length. This will be upwards of 300 ft. longer than the Thames Tunnel. The cost of the Elbe Tunnel is estimated at about 900,000*l*.

THE VENDOME COLUMN.

A FAVOURITE amusement with visitors to Paris had long been the ascent of the Column of Vendôme, whence they obtained a splendid bird's-eye view of the great city. This pleasure the authorities have found it necessary to deprive travellers of in future. It appears that the practice of ascending to the gallery near the fine statue of Napoleon on this monument was resorted to not by sightseers only, but by a steadily increasing number of persons whose sole aim was suicide. Since the year 1850 no fewer than eighty-two visitors have thrown themselves from the top of the column and been dashed to pieces at its foot. The height from which they leaped is 140 ft. It was not found possible to prevent this terrible form of suicide except by totally prohibiting the public from ascending the monument, and this has accordingly been done.

ADULTERATION OF CEMENT.

THE above question is attracting a certain amount of attention in Germany at the present moment. One of the leading technical journals recently published (omitting names) an exact copy of a letter sent to a cement manufacturer offering him a supply of finely-sifted blast-furnace cinder for mixing with cement, and citing the fact that this article is regularly supplied to one of the largest manufacturers in Germany. The matter has recently been much discussed in technical and industrial circles, so that a considerable interest was taken in the meeting of the German Cement-makers' Union, which took place on the 6th inst. in Berlin. This assembly was convened, it would seem, for the express purpose of discussing the best means of putting a stop to such adulteration on the part of certain producers. The meeting was attended by representatives of nearly all the German cement-makers, and it is remarked that the deliberations were marked throughout by a friendly spirit, and by a desire to arrive at a solution of a definite and satisfactory nature. Dr. Dellbrück, the chairman of the Union, presided, and it was generally acknowledged that proceedings of the nature referred to on the part of certain manufacturers were calculated to injure the reputation of German cement in both home and foreign markets. It was further argued by some speakers that even if the admixture of certain substances with cement resulted in increasing its strength, yet it was unadvisable to sanction a practice which opened the door to adulteration of a more serious nature. A resolution was at length unanimously adopted to the effect that (leaving open the question whether the additions of certain substances to cement after burning improved or deteriorated its quality) all such admixtures should be considered as adulterations, and should be treated as such, unless the bags and casks bore a statement that such an admixture existed in their contents. Only such additions as gypsum, &c., necessary for giving certain properties to cement would be allowed, and then only up to the extent of 2 per cent.

The representatives of the factories which had used the admixture referred to then declared their intention of adhering in future to the principles laid down in the resolution which had been adopted. It was decided to forward to each cement manufacturer in Germany a copy of this resolution, with a request for an expression of the acceptance of the general principle thus laid down. It is proposed to publish, after a lapse of about three months, the names of those makers who shall have refused or neglected to signify their concurrence in the policy of the union.

A report is to be presented to the Government giving details of the steps which are being taken to prevent the continuance, on the part of manufacturers, of the adulteration which had called for the action of the central body.

"OWEN JONES" PRIZES, 1882.

THIS competition was instituted in 1878, by the Council of the Society of Arts, as trustees of the sum of 400*l*., presented to them by the Owen Jones Memorial Committee, being the balance of the subscription to that fund, upon trust to expend the interest thereof in prizes to "Students of the Schools of Art who, in annual competition, produce the best designs for Household Furniture, Carpets, Wall-papers, and Hangings, Damask, Chintzes, &c., regulated by the principles laid down by Owen Jones." The prizes are awarded on the results of the annual competition of the Science and Art Department.

Six prizes were offered for competition in the present year, each prize consisting of a bound copy of Owen Jones's "Principles of Design" and a bronze medal.

The following is a list of the successful candidates:—

1. **Thomas E. Doran, School of Art, Macclesfield, Design for Silk Hangings.**
2. **James Meine, School of Art, Kidderminster, Design for an Axminster Carpet.**
3. **Thomas Linnell, School of Art, Leicester, Design for Tapestry Hangings.**
4. **Alexander Park, School of Art, Glasgow, Design for a Carpet.**
5. **John Sykes, School of Art, Leicester, Design for a Wall Paper.**
6. **Frank E. Adams, School of Art, Macclesfield, Design for Furniture Silk.**

CONTRACTS WITH CORPORATIONS.

SIR,—It having been decided upon the statutes that contracts are not enforceable against municipal corporations, nor, in some cases, against Boards of Guardians, unless they are duly executed and sealed with the common seal of the Corporation or Board, it becomes an interesting question whether the reverse holds good, viz., whether a tender made by a person intending to contract with a Corporation or Board, duly submitted and accepted by mere resolution of such Corporation or Board, and properly entered on the minutes, but not sealed, is capable of being enforced, as a complete contract against the person making such tender. The opinions of your correspondents who write on the jurisprudence of building would be esteemed a favour by yours, H. A.

OBITUARY.

Mr. Henry Hill, F.S.A., J.P., &c., who was buried in Kensall-green Cemetery on the 21st inst., had long been an occasional contributor to this journal. Under the signature "F.S.A." he, on many occasions, gave us flying accounts of the congresses held by the Royal Archæological Institute, and last year some comments of his on the procedure of the vergers at York led to a correspondence, both in our own pages and locally, which was productive of good in more places than one. Under the signature "Clarry," he was a useful contributor to *Notes and Queries*. Mr. Henry Hill had been a member of an eminent firm of stockbrokers, Messrs. Hill, Fawcett, & Hill (Thackeray's "Dale, Spigot, & Dale"), but retired from it some years ago with a fortune. Being a popular member of the Masonic Lodge to which he belonged, of the "Cocked Hat Club," and similar social as well as intellectual bodies, a large number of friends met spontaneously, in addition to his relatives and those intimately connected with him in life, to see the last of one with whom many pleasant and not always uninstructive hours had been spent. His death was terribly sudden and wholly unexpected.

William Ellis, a well-known Yorkshire sculptor, was found dead in his bed at Sheffield, on the morning of the 19th inst. The day before he had visited the exhibition of pictures at the School of Art of the Sheffield Society of Artists, and appeared in his usual state of health. He had, however, been subject to fits of syncope, and it is supposed that he died whilst asleep. He was fifty-eight years of age, and an artist of great ability and talent. His marble busts have ever ranked high, whilst, as a young man, he was for years a valued assistant in the studios of several of our best known London sculptors. Unendowed with business tact, however, his life for some time past has been one of continuous poverty, a perpetual struggle with an empty purse and bare cupboard!

SALE OF HOUSES AND BUILDING LAND IN CAMBERWELL.

An extensive sale of freehold houses and building land in Camberwell, which will occupy six days, was commenced last week at the Auction Mart, the sale being conducted by Mr. Robert Reid. The property, which is sold under an order of the Court of Chancery, comprises 700 houses situated in Albany-road, New Church-road, Camberwell-road, Camberwell-green, and other parts of Camberwell. It embraces several public buildings, including the South London Conference Hall, and the St. Giles's and Middle-Class Schools. Also ten licensed public-houses and the Camberwell Brewery. It was stated that the entire property produces a rental of 14,000*l.* per annum. In addition to the houses as above stated, the sale also includes thirteen large plots of building land, varying from 4,900 ft. to 19,000 ft. each, and covering altogether an area of upwards of thirty-two acres. The property is divided into 243 lots, and the portions disposed of at the first and second day's sale, last week, consisted of ninety-four houses and two plots of land in Albany-road. The large room at the Auction Mart, in which the sale took place, was much crowded throughout both days' sale. The auctioneer, before offering the several lots, observed that the rents of the houses were undoubtedly much below their real value, as was proved by the rentals of other properties in the same locality. This was owing to the owners having been satisfied with the rents which had been paid for several years past, and which had never been advanced, although they were about 30 per cent. below the average rentals of property in Camberwell. The sale then commenced, when from the activity in bidding it was soon proved that there was a great demand for the property. All the lots comprised in each day's sale were readily sold at what was considered full prices, being bought to pay from 6 to 7 per cent. on the outlay. One of the lots sold on the first day's sale, consisting of a licensed beer-house, known as the "Dun Cow," the rental of which is 30*l.* per annum, was sold for 900*l.* The value of building land in the neighbourhood of Albany-road was indicated by the price which was paid for two plots. One plot, consisting of 6,829 superficial feet, was sold for 710*l.*, being at the rate of 4,260*l.* an acre; and another plot, containing 11,737 ft., was disposed of for 1,160*l.*, being at the rate of about 4,500*l.* an acre. The first day's sale realised an aggregate sum of 23,615*l.*, and the second day's sale 18,025*l.* The sale will be continued and concluded next week.

VALUE OF CITY PROPERTY.

The great value of property in the neighbourhood of the Bank of England was shown at a sale which took place at the Auction Mart on Tuesday, when an offer of 52,000*l.* was refused for freehold premises covering a ground-area of 2,623 superficial feet. Messrs. Debenham, Tewson, & Co., conducted the sale. The property consisted of Nos. 57 and 58, Threadneedle-street, containing the ground and four floors, having a frontage of 29 ft. to Threadneedle-street. It is now in the occupation of the General Post Office, on a lease for a term of sixty years from September, 1858, at a ground-rent of 1,000*l.* per annum, to which the purchaser would be entitled for the residue of the lease, which terminates in 1918, after which the particulars stated that he would receive the full rack-rental, moderately estimated at 5,000*l.* per annum. The property was described as forming the very centre of the most valuable part of the city. The biddings, commencing at 20,000*l.*, appeared to be confined to two gentlemen present, and were brought up to 52,100*l.*, when, there being no higher offer, the auctioneer withdrew the property at 52,200*l.*, stating that the sum which had been offered did not by any means reach the value which had been placed upon it.

THE NEW METAL EXCHANGE BUILDINGS.

Amongst other new buildings in the City which have followed upon the reconstruction of Leadenhall Market, are the new Metal Exchange Buildings, which have just been erected in Whittington Avenue, Leadenhall-street, immediately adjoining the entrance to the market, and which were opened for the first time for business on Monday last, when the half-yearly meeting of the Metal Exchange Company was held in the principal room of the Exchange.

The building stands upon the site of Old Leadenhall, said to have been formerly occupied by Whittington. The principal elevation of the building, on the west side of the Avenue, is 51 ft. in length, the structure, including the numerous offices which it contains, extending to a depth of 128 ft., the rear of the building abutting on the west wall of the old City monastery. The Whittington Avenue frontage is 68 ft. in height, and contains four floors besides the basement. The ground-floor is carried up with polished red granite piers, on grey granite bases, with an ornamental arched entrance to the exchange-rooms, 9 ft. in width. The rest of the elevation is in Portland stone, elaborately carved and ornamented. The first floor contains a range of four three-light elliptical windows, together with a central projecting bay window, continued in the several upper floors to the top of the building, the central portion of the elevation above the cornice being surmounted by a pediment or gable. The second, third, and fourth floors have two-light windows, all the windows of the several floors being enriched and ornamented with carved and fluted pilasters.

The whole of the ground-floor of the building, to the extent of upwards of over one-half of its entire depth, is intended to be entirely devoted to the purposes of the Exchange. On the left hand side of the entrance, which leads into the exchange-rooms, is a waiting-room, with lavatories on the right-hand side. The exchange-room is 60 ft. in length and 38 ft. in width. The walls are panelled, the panels being divided by fluted pilasters, having carved capitals. In addition to a range of windows on the north side the Exchange is lighted by a handsome lantern light, extending almost the entire width of the apartment. The lantern light is surrounded by an ornamental cornice and carved ceiling, resting on fluted columns. Immediately adjoining the exchange or principal room, at the west end, is the reading and telegraph room, and also a spacious committee-room. The floors of the exchange and other rooms in connexion are all laid with oak. The whole of the ground and first floors of the building are fire-proof. The portions of the building apart from those used for exchange purpose contain fifty-two spacious offices, to which there are approaches in Whittington Avenue and also from Gracechurch-street, along a new thoroughfare to be called Leadenhall Avenue. All the offices have fresh-air inlets on the Tobin principle. The sanitary arrangements, which are ample and complete, have been carried out by Mr. George Jennings, of Lambeth; the gas-fittings are by Messrs. Strode & Co.; and the hot-water apparatus by Messrs. Bailey & Sons.

Messrs. Edmeston & Sons, of Old Broad-street, are the architects, and Mr. T. Boyce, of the Eagle Works, Hackney, is the builder. Mr. James Cornish is foreman of the works.

SALE OF AN EXTENSIVE BUILDING ESTATE AT CLAPHAM.

Last week, Messrs. Debenham, Tewson, & Co. submitted for sale at the Auction Mart, the valuable building estate, known as West Side, Clapham Common. It was described as comprising a superior family mansion, with outbuildings, and extensive pleasure-grounds, together with nineteen acres of land. It was stated to possess exceptional advantages for building upon, possessing long frontages on three sides, one to Webb's-lane, being 1,648 ft. in length, another to Battersea Rise, of 506 ft., and a third fronting Clapham Common, 495 ft. The competition for the property was close. The first offer was 20,000*l.*, upon which advances were made in rapid succession, and the estate was ultimately sold for 45,000*l.*, being at the rate of about 2,400*l.* an acre. It was stated in the room that the property had been purchased by a syndicate, and that it will be immediately laid out for the erection of residences.

THE MEASUREMENT OF GLAZING.

KEYLOCK *v.* SPRULES.

This was a case arising from a question of measurement in glazing, heard in the Greenwich County Court on the 21st of July last, before Mr. J. Pitt Taylor. The plaintiff was Mr. Keylock, glazier, of 71, Evelyn-street, Deptford; the defendant, Mr. G. H. Sprules, Cannon-street.

Plaintiff had agreed to prime and glaze certain sashes at per foot, and had rendered defendant an account for doing the work amounting to 36*l.* 5s. 2d. Defendant had paid him 30*l.* 7s. 7d., and also 1*l.* 10s. as an allowance for priming, in settlement, claiming to be justified in paying for glass supplied only; but plaintiff demurred to this, and now sued for balance, 4*l.* 7s. 7s.

Mr. Laidman, who appeared for the plaintiff, asserted that it was a universal custom in the trade to charge priming and glazing sashes to the full outside dimensions of sash, instead of size between rebates, and that his client had pursued this system of measurement successfully for twenty years, to which the judge replied that, if so, it was because he (the plaintiff) had never been found out.

Mr. Wallbutton, builder, of Lewisham High-road, New Cross, who represented the defendant, stated that he had had a long and practical experience the other way, and endorsed this by referring the judge to a standard trade price-book, and handed in a glazing account for work by a London firm, showing that the present system was to charge the size of the squares, but in fractional parts of inches to allow the glazier the full inch; that by the way the plaintiff measured a difference was made against the defendant of about 300 ft.; that full allowance had been made, and 1*l.* 10s. paid for priming, although priming was agreed to be included in the price quoted by the plaintiff; and was about to call one of his witnesses; when,—

The judge ruled that it was a clear case of overcharge, and gave verdict for the defendant, with costs of four witnesses.

The Safety of Cairo.—Five well-known artists, Messrs. Carl Haag, Frank Dillon, Walter Severn, R. M. Chevalier, and R. Dowling, make an appeal on behalf of Cairo. They say,—"We who, while painting the streets of the old town, the stately mosques, and unrivalled tombs of the Caliphs, have almost become worshippers of the beauty of the place, positively shudder to think that these splendid specimens of Oriental architecture may in a few days be heaps of ruins. The Government may have good reasons for following a particular policy, but we venture to think that nothing,—no political considerations,—can justify the delay which is taking place in providing for the safety of Cairo."

BUILDERS' BENEVOLENT INSTITUTION.

THE thirty-fifth annual meeting of this Institution was held at Willis's Rooms, St. James's, on Thursday, Mr. George Plucknett, J.P., in the chair.

The annual report stated that, notwithstanding the augmentation of the yearly payments to the pensioners, a larger number of annuitants now receive the benefits of the Institution than at any previous time have been dependent on the funds of the charity. The labours of the Committee were encouraged by an offer from Mr. George Godwin (who had promoted the welfare of the Institution from its commencement) that if twenty other persons would give ten guineas each he would give a further donation of a hundred guineas. That offer was taken up by Mr. George Burt, J.P., the president of the Institution for the past year, with the generous spirit in which it was made, and through Mr. Burt's energy and liberality the project was most successfully achieved. The Committee were thereby enabled to increase the number of pensioners on the books of the Institution. The committee point out that, in consequence of the death of many gentlemen who had for many years been subscribers to the Institution, it is important that its friends should enlist new subscribers, so that the annual income may be maintained in such a way as to enable it to meet the increased expenditure consequent on the augmentation of the pensions. Among the good friends of the Institution who had died during the past year were Mr. J. Simpson, Mr. J. M. Macey, Mr. George Jennings, and Mr. T. F. Odell. By Mr. Simpson's death the Committee had lost a colleague who took an earnest interest in the charity. The annual ball, thanks to the energy of the gentlemen who acted as stewards, had resulted in a profit to the funds of the Institution of 68*l*. 15s. 6d. During the past year eight pensioners had been elected (seven men and one woman), and five pensioners (three men and two women) had died. In conclusion, the report stated that Mr. J. T. Chappell had consented to become President of the Institution for the ensuing year, and that the annual dinner would be held at the Freemasons' Tavern on November 2 next.

The balance-sheet, duly certified by the auditors (Messrs. J. H. Hunter, J. Cruttenden, and R. J. Ward), shows that a balance of 1,349*l*. 15s. 4d. was brought forward from last year; that the annual subscriptions amounted to 806*l*. 18s. 6d., and the donations to 1,453*l*. 10s. 6d.; that 643*l*. 2s. 8d. was received in dividends on 21,438*l*. Stock; making a total, with interest on deposit account and profit on ball, of 4,347*l*. 3s. 9d. The total expenditure amounted to 2,158*l*. 19s. 8d., including 1,779. 9s. 6d. paid to pensioners, 15*l*. burial money, and 364*l*. 10s. 2d. expenses of management. There remained a balance at bankers of 2,188*l*. 4s. 1d., 1,250*l*. of which was on deposit, and 938*l*. 4s. 1d. on drawing account.

On the motion of the Chairman, seconded by Mr. Thomas Stirling, the report and balance-sheet were unanimously adopted, Mr. Stirling observing that the position of the Institution was very satisfactory, the income being larger than last year, while the expenditure was less.

Votes of thanks were passed to the President for the past year, and to the Vice-Presidents, Trustees, Treasurer, and Auditors, and it was unanimously resolved that Mr. J. T. Chappell be elected President for the coming year.

THE PROPOSED NEW PUBLIC OFFICES

A COMPETITION CONTEMPLATED.

IN the House of Commons on Monday last, in reply to questions put by Lord Elcho and Mr. Aylmer,

Mr. Shaw-Lefevre said now that the new scheme for the War Office and Admiralty had been adopted by Parliament, the property acquired in Parliament-street would not be required. That property had been purchased for 240,000*l*. He was informed that it had been bought on most reasonable terms, and that by acquiring that property from the Government at cost price, and by purchasing the remaining land required, Parliament-street could be widened by a public body without loss. He trusted that the work would be undertaken by the Metropolitan Board of Works, but in the event of their not doing it, he was in hopes that it could be done by some other means.

Lord Elcho understood that there was to be an architectural competition in respect of the War Office and Admiralty. He wished to know whether it was intended that it should be a limited or an open competition. He would strongly urge upon the Government to make it an open competition.

Mr. Shaw-Lefevre said that he had not yet decided what form the competition for the new buildings should take. Some of the best architects declined to compete if it were an open competition, on the ground of the great expense of preparing designs. He was told, however, that it would be possible to adopt a plan of having a double competition; first, sketch designs, and then a selection of five or six of the best for the complete design. The matter was not yet decided.

THE "BLACKSMITH'S ART," AND TECHNICAL EDUCATION.

SIR,—I read with very great pleasure Mr. G. H. Birch's paper as reported in the *Builder*. But during a long experience in the trade, I have yet to learn that there is any truth in one remark made by him, that, "Happily for our times, we do now appreciate the smith's art." It may be true that there are many passive admirers of such work, but the real patrons and virtual connoisseurs of the art are very few and isolated indeed, and beyond a few well-known firms, who find a limited amount of employment, there is little demand for genuine art-smith work. The demand is for those cheap and nasty abortions that vainly attempt to simulate good art, and so we have bad and flimsy imitations of old specimens, formed of sheet-iron, tin-plate, wire, and round rods, bent, and stuck together with clumsy rivets, lead, solder, and even cement and putty, in a rickety and wretched fashion, subversive of all art, instead of genuine forged and welded work, drawn out and tapered in due proportion, beaten up and curled in bold relief, curved in elegant scrolls, and bent in graceful, free, and ever-varying contour, all neatly yet strongly welded, dovetailed, and riveted together in such masterly manner as marks at once the cunning hand of the artist, and every part of the work in accord, complementing and relieving each other without either confusion or monotony, and embodying the very love and fervour of the true-souled craftsman, who wrought his poems in iron, even as others have written theirs with the pen.

But for such work there is no demand. The true art-smith is not desired. No one wants such an ornamental dreamer in this sordid, profit-grinding, and most mechanical age. Why, sir, the whole country is full of shams; and every mart is selling its "art productions" at from a farthing per pound or a penny per yard.

The art wanted is that of a long-winded, strong-limbed biped,—a human machine, that turns out its work like corn from a mill. "I want," said an employer, "a fellow strong in body and weak in brain." Quantity is the desideratum, not quality. Or, if the art-smith be employed, sir, is it not to dab together in some slippy and slop-shop manner the Cheap-Jack barbarisms of some frenzied or idiotic fellow who imagines that he alone is an apostle of art? Mr. Birch speaks as an architect, I infer, with little knowledge and no experience of the practical art-workers who have literally begged from door to door for employment, only to meet with contemptuous rebuff and insolent sneer, as well as disappointment and denial. During the twenty years that I have been connected with the business, as workman, foreman, manager, and designer, I have met with many such, and know of many who, meeting with no demand for their art, have left it by compulsion for other branches of trade. I write of honest, steady, and able men, who were capable of working out almost anything in metal. The men that there is a demand for are men of mediocrity, who do not excel the capacity of their incompetent superiors, and drudges who work out in silent obedience the absurd designs given to them, without either suggestion, hope, or ambition other than servile submission to the whims of his masters, who, in their own default, are ever ready to blame the "British workman." From time to time we have an outcry of the great lack of intelligent and able workmen; and now there is quite a mania for technical education, just as years ago there was a similar outcry, when the science and art classes in connexion with the South Kensington Departments and the Society of Arts competitions for art-workmen were instituted. How is it? Have these schemes failed? Where are the thousands of workmen and students that have attended these classes, with their prizes and certificates? Why! no master cares for them; no one looks at them; no one hears of them; and they are of no value to the holder! The schemes were most laudable, and well calculated to effect their purpose; and I, with others, am deeply grateful for the good information and teaching there received, as well as the hunger for more that it created, as in the immortal Oliver. But how is this loud clamour again and again about the incompetent and unintelligent workman? These schemes have failed, just as the present scheme for technical education will probably fail, not through the default of the workman, who receives no encouragement or demand for superior intelligence or ability. The default is that of the employers and their clients, who neither patronise nor encourage high-class workmen. The client patronises the biggest pennyworth, ignoring the fact that the value is in inverse proportion, and the employer acts on the same rule. The managers and foremen are selected either for their plausibility, good penmanship and good address, or for their driving and bullying powers, and not for their practical ability or technical qualifications; and both masters and foremen, deficient themselves, are not only incapable of judging of the merits of things that they cannot understand, but also dread the really intelligent, well-educated, and able workman, who is better qualified than themselves in every point but in the matter of capital, position, and opportunity. Workmen are not slow to detect this, and others reason,—"What is the use of my going, like Brown, and wasting my time in studying and money in books? He is no better off for it, and gets no more pay than I do"; and, sir, *cui bono?* Educate the workman, indeed! No, sir; educate the masters.

These reformers begin at the wrong end. What we want is that the employers and their customers and consumers or purchasers be educated to that point at which they shall be able to distinguish between good work and botch-work, and between shams and meritorious art; or until they will tolerate good men. Create a demand for them, and encourage them, and they will soon be forthcoming. When you find a man of ability, however poor, or whoever he may be, if honest and of good character, instead of greeting him in your usual, "Can any good thing come out of Nazareth" way, test him! Do not ask if he is an R.A. or an F.R.S., or if he has had a university education! For these are by no means guarantees of universal qualification. Do not inquire if he is a member of a noble family,—holds a commission in the army,—or possesses testimonials from lords and legistators, and innumerable clergymen; nor require him to be a distinguished foreigner; but seek to know if he can do the work he professes to do, and if so, try him!—and by so doing you will soon discover more intelligence and refinement in British workmen than you give them credit for!

And so with his compeer the able designer and draughtsman, who has devoted long years of study and experience to the mastery of his art, who, instead of mere copyism and purloined designs, evolves from his own ingenious mind creations, novel, original, and beautiful. Too often in poverty and painful obscurity, he is neither encouraged nor required. His position is occupied by some boy draughtsman who can trace or copy designs filched from other catalogues; or else some poor bungler, at a similar rate, who, selecting portions of this design, and bits of another design, of various styles, jumbles them all together in inconsistent and incongruous ornament,—a sort of metal patchwork or hotch-potch of odds and ends of such sort as any man of taste or honesty would be ashamed of. The qualifications and superior ability of the honest artist are repudiated, and should he by any means get employ, it is only for a short time, until a few good designs are made, to which his employer generously signs his own name, and so, not only robs the man of all due credit for his work, but, by so doing, prevents the real designer from becoming known and obtaining other chances of employment. And the pay, sir! I have known such a clever artist to be offered the munificent reward of 25s. per week. Encouraging, is it not? Very! "Happily for our times, we do now appreciate the smith's art" Again, the poor artist applies for a vacant situation, and submits examples of designs, which are retained, although he obtains not the situation. Years after he discovers that they have adopted and published the submitted designs, without giving either pay or credit for them. There are thieves abroad, Mr. Editor; but this is a kind of theft that the law excuses.

AN OLD ART-WORKMAN.

THE LATE MR. G. SOMERS CLARKE.

Sir,—As an old pupil of the late Mr. George Somers Clarke, whose loss we must all deplore, I may perhaps be permitted to add my testimony of respect to his memory.

Mr. Clarke was an architect of great power and culture, singularly unaffected, and possessed of considerable industry. His urbanity and kind consideration to those in his office were marked characteristics. To you, Sir, all who were associated with Mr. Clarke must feel grateful for the considerate and gentle nature of your remarks in reference to our late friend.

I was closely associated with Mr. Clarke from the year 1854 until 1862, and during this period he entirely rebuilt Cowley Manor, Gloucestershire, for the late J. M. Hutchinson, esq., of Lothbury, and also designed the singularly beautiful Italian garden, with terraces, waterfalls, pavilions, and termini, &c., belonging to the same. The style adopted was pure Italian. Mr. Clarke subsequently designed a small Turkish bath, which was attached to the mansion, which was of a very perfect character, and about the same time he carried out a large warehouse in Wood-street for Messrs. Munt & Brown. He also designed the Merchant Seamen's Orphan Asylum at Snaresbrook, together with the chapel, the gift of Lady Morrison. These works contain much evidence of his perfect acquaintance with Italian Gothic detail, and were the outcome of much study both as to planning and design. About the same time he designed the Brighton Asylum and Schools, which also bear evidence of his intimate acquaintance with a style of which they form graceful examples.

The Turkish Baths in Jermyn-street was an important work of novel character, and I recollect how much careful study he gave to this work, the style adopted being one in which Mr. Clarke had previously little acquaintance, and also to the great industry he exercised in making himself acquainted with the Turkish and Moresque styles of architecture, together with the Roman mode of arranging the various apartments and hypocaustum. This bath is second to none in correct design and excellence of arrangement. Mr. Clarke, in carrying out the details of the building, was greatly assisted by the late Mr. David Urquhart, of Turkish celebrity, the late Mr. George Wilt, the late Mr. Erskine Rollond, and Mr. Thudicum, all of whom possessed experience in the arrangement of such establishments. Mr. Clarke used to send me to attend the Institute library in order to consult the works of Gérault de Prangey, and other writers whose names I seem now to have forgotten, so that the architectural details of the building should be perfect. It seems but yesterday that I met in this bath the late Mr. E. M. Barry, only a short time before his sudden and lamented decease, and in the conversation we had together he expressed himself greatly pleased with the arrangements and design of this unique work.

In your notice of his works you omit to mention the building he designed for the London Printing and Publishing Company in St. John's-street-road, since pulled down for the purposes of the Metropolitan Railway. This was a work of much merit, designed in the German Gothic style, and I think was illustrated in your journal. Mr. Clarke also altered the Haymarket Theatre for the late Mr. Buckstone; he also prepared in competition designs for the Banstead Asylum, which, though unsuccessful, were marked by much originality of design and careful planning.

As a surveyor, Mr. Clarke was not wanting in acumen and judgment, but it is as an architect and artist that he will be best remembered. He was a great sketcher, and almost invariably used the camera lucida. His touch was singularly delicate, which is the more remarkable when we recollect that he had lost the first joint of the thumb of the right hand by a gun accident. Edward Power.

Brindley & Co.—We observe in our advertisement columns that the old-established firm of Joseph Brindley & Co., slate merchants, have opened an office and show-rooms at 61, King William-street, City. This firm, which has been established in London for sixty-two years, was lately turned into a private company, under the Limited Liability Act, and are now largely extending their business.

THE LATE HABLOT BROWNE.

Sir,—I do not know whether any one has hitherto remarked that the late Hablot Browne, the "Phiz" of many of Dickens's and other authors' works, was originally an architectural artist.

On looking through the plates of Winkles's "Cathedrals" (notably the illustrations of Canterbury Cathedral), the name of "Hablot Browne" will be found as the draughtsman of several of the engravings.

As architectural drawings they are not especially striking, and in many instances they are incorrect, but possibly they belong to an early period of his career, and before he found that figure-drawing was his speciality rather than architecture.

Winkles's work was, I believe, first issued in monthly numbers, somewhere about the year 1836 or 1837. Francis T. Dollman.

COMMUNICATIONS BETWEEN NORTH AND SOUTH OF THE THAMES, EAST OF LONDON BRIDGE.

Sir,—I shall be glad if you will give me space for a few words on the above subject. I have read your recent excellent article, but there is one point which does not seem to be sufficiently looked at by Mr. Barlow, and that is, that all the communications shall be free. What the Committee for improved communications want is that whatever shape such communications assume, whether tunnels or ferries, they shall be absolutely free, both to foot-passengers and every class of vehicle. All the schemes heretofore have been subject to heavy tolls, hence their apparent failure. An Act was passed in 1872 for a common ferry from Greenwich to the Isle of Dogs for the passage and conveyance of horses, carriages, cattle, goods, wares, merchandise, &c. Some of us remember the cumbrous boat that was provided, which lay rotting for years on the foreshore at Greenwich. No wonder the public did not use it, as the scale of tolls for vehicles named in the said Act are as follow:—For every two-wheeled chaise or other carriage of like nature, drawn by one horse, the sum of 6s.! For every wagon, whether drawn by three or four horses, the sum of 10s.!

That further modes of communication are needed, any one interested in the subject would see if he would stand a short time near King William's Monument, London Bridge, and note for himself the traffic going east and that going west; he would not need to be told that for the enormous trade of the East of London additional means of communication are requisite; moreover, it seems anomalous that the 2,324,000 people west of the Monument require for their traffic no less than twelve free bridges, whereas, on the other hand, for the 1,509,000 inhabitants eastward of the Monument (to which we should add the 296,290 of West Ham) there is for their carts, vans, carriages, &c., only the one mode of crossing the water, viz., by London Bridge. It is contended by Mr. Barlow and others that they do not require increased modes of communication. The statement refutes itself.

The merchants and traders of the East End of London urge that their trade is crippled, and that they suffer very much for the want of free communication other than the long and tedious route *viâ* London Bridge.

Samuel Trickett,
Treasurer to the Committee.

LOCAL BOARD SURVEYORS.

Sir,—The enclosed cutting from the *Wolverhampton Evening Express* of Monday, July 15, shows a far from solitary instance of what is done by the Local Board surveyors in this district,—a practice which is increasing, and might be stopped by members of the Boards refusing to sanction such proceedings. It is all very well for a man to draw a good salary for his, in many cases, light municipal duties, and then to follow a private practice either openly or through his assistants: thus enabling him to work at one half, or even less, of the usual commission, and by such means, together with ensuring the passing of the plans, taking the work from the hands of local practitioners and ratepayers; but, as the solicitor in the case observed to the judge, "It was a disgraceful practice, and the sooner it was abandoned the better," in which the judge appears to have concurred, by giving a verdict against the surveyor.

It is to be hoped that Local Boards will take care to prevent such doings, and in the meantime a few words from the *Builder* would make known the impropriety of such conduct.

A Provincial Architect.

The Perquisites of a Local Board Surveyor.—At the Oldbury County Court, before Mr. W. D. Griffiths (judge), Joseph Davis, surveyor to the Oldbury Local Board, brought an action to recover the sum of 15*l*. 10s., balance of commission for superintending the erection of two houses and stabling in Titford-road, on behalf of Messrs. John & Cornelius Bagnall, ironmasters, Langley. Mr. Wright (Messrs. Wright & Co.) appeared for the plaintiff, and Mr. Shakespeare represented the defendants. The houses were erected in 1875, and the plaintiff alleged that he was employed by the defendants to draw the plans and superintend the erection of the buildings at a commission of 2½ per cent. He received 10*l*. on account during the building, and the claim was for the remainder of the amount. In cross-examination, the plaintiff stated that as surveyor to the Local Board he only inspected a building after the foundation had been made, and then again when the building was finished. He had 170*l*. per year as surveyor to the Local Board. Plaintiff said he prepared the plans in this case, and on his advising the Board they were passed. That was in the year 1875. The Judge said it would have been odd if the plan had been rejected. Mr. Wright said he thought it was a very wise arrangement. The Judge said it was, for persons who were going to build, because they would be sure to get their plans passed. It might be very good for them, but it was not for the Local Board. Mr. Shakespeare said the system of a surveyor advising the Board to pass plans that he himself had prepared was one very much to be deplored. It was a disgraceful practice, and the sooner it was abandoned the better. He was surprised that the Local Board should allow such a state of things to exist. For the defence, it was contended that the plaintiff refused to superintend the building after it was one floor high. The Judge said he was inclined to think the plaintiff's case had failed; he should accordingly give a verdict for the defendants.

VARIORUM.

The "Draper's Dictionary" (Collingridge), by S. William Beck, is an attempt to give particulars relating to the history of textile fabrics in a handy and convenient form, and to clothe the statements with the literature of the subject. Although it is for the most part compiled from compilers, it is a useful book, and moreover a pleasant.——The *Sunday Review* for July (Trübner) includes a full report of the last annual meeting of the Sunday Society, and of the debate in the House of Commons on the proposed extension of Sunday opening.——A writer in "Our Homes and How to make them Healthy," for August, speaks thus as to parsonages:—"In discussing the arrangements of an ordinary country parsonage, it is necessary to bear in mind the special circumstances which distinguish this class of house from other houses of similar dimensions. The principal distinctive feature about a parsonage is, that it is inhabited by a succession of owners whose circumstances may be, and frequently are, widely different. While the amount of the income of the living remains fixed within certain limits, the actual income possessed by any one occupant may, on the one hand, be restricted to that amount, or, on the other hand, it may be considerably greater by reason of private means possessed by the incumbent. The tenure also of a parsonage is peculiar. It, together with the glebe, belongs to the incumbent absolutely so long as his incumbency lasts. While, however, the incumbent's tenure is freehold so long as it endures, he (or his executor), is liable to his successor to deliver up the building at the determination of his incumbency in a perfect state, without allowance even for wear and tear. The effect of this system makes the incumbent at once both tenant and landlord. The necessity, therefore, for building parsonages in the most substantial manner possible is obvious. Another no less important consideration involved by the peculiar circumstances of the holding, is that the size and character of the house must always bear a due proportion to the value of the living. In building or altering a parsonage, regard must always be had, not to the special circumstances or requirements of any one particular incumbent, but to the reasonable requirements of an incumbent solely dependent on the income belonging to the living. It will readily be understood that if this rule were not strictly observed, a rich incumbent of a poor benefice might burden his successors with a house costly in maintenance and repairs, and quite beyond their means to keep up. Again, an unmarried incumbent might build a house in every way suitable to his own requirements as a bachelor, but utterly inadequate for the accommodation of a married parson with a young and numerous family."——We get from *Cassell's Illustrated Universal History*, for August, a brief account of the foundation of Alexandria:—"Entering Egypt at Pelusium, Alexander found his fleet already there. The Egyptians crowded to welcome him, and, leaving a garrison in the city, he marched across the desert to Memphis. Here the satrap Mazakes immediately surrendered himself, and an immense treasure came into the hands of Alexander. The whole of Egypt, indeed, submitted with alacrity, as a relief from the insulting despotism of the Persians. The Macedonian hero rested himself for some time in this ancient and magnificent city, offering sacrifices to the god Apis and other Egyptian deities, and entertaining the people with gymnastics and musical performances. He then sailed down the western branch of the Nile to Canopus, situated at its mouth. Seeing the advisability of removing the seat of government from Memphis to some spot upon the coast which would be more within his power, he determined to found a new metropolis on the shores of the Mediterranean. Hence arose the famous city of Alexandria, afterwards one of the most splendid and important capitals of the world,—the great seat of commerce for Europe, Africa, and India, and an intellectual centre of the Greek race, which for several ages exercised a powerful influence over the philosophy and religion of the civilised world. Alexander himself marked out the circuit of the walls, the direction of the principal streets, and the sites of numerous temples, which were to be dedicated to Grecian and Egyptian deities. The site was on a narrow tongue of land stretching between Lake Mareotis and the sea, and the plan of the city was made to include the adjacent isle of Pharos, which was joined to the other part by a causeway. Two harbours were formed,—one on each side of this causeway,—for ships coming by sea; and Lake Mareotis was utilised for the reception of exportable produce from the interior. The nucleus of the population was mainly derived from the neighbouring town of Canopus. During the rule of the Ptolemies, Alexandria grew immensely in size, in grandeur, in population, and in wealth. Its Museum was celebrated in all civilised lands, and the Library of Alexandria (the destruction of which has been the subject of contradictory statements) contained the finest collection of Greek classics in the world. In this most interesting city, the East and West may be said to have mingled as in a common centre; and from the consequent interchange of ideas between the more ancient and the more youthful communities of the world, Christianity itself received some of those elements which rank among the philosophical influences of a later epoch."

Miscellanea.

Palestine Exploration Fund.—Captain Conder, R.E., last week addressed a large party assembled by invitation of Mrs. Grear, of Grove House, Regent's Park, on the researches and discoveries recently made by him in the expedition from which he has just returned. The chair was taken by Col. Warren, C.M.G., R.E., who explained the difficulties encountered in the progress of the work, and the resolution with which Captain Conder had met them. The points of principal interest were,—first, the rude stone monuments discovered in Moab, of which Captain Conder found no fewer than 700, many of them bearing distinct traces of having been used as altars of sacrifice or libation; among them may be, in fact, no other than the altars of Balak. At Ammân he found a monument which he suggests may be the bedstead of Og, being a great cromlech on a hill close to the city. The second point on which he dwelt at length was his great discovery at Kadesh, the sacred capital of the Hittites This discovery was made from the description of its conquest by Rameses II. The Bishop of Huron, who was present, spoke strongly on the importance of these explorations, as to which we not long ago offered some comments.

The Law Courts, New and Old.—In Committee of Ways and Means on Monday evening, the House of Commons proceeded to consider the Civil Service Estimates. On the vote to complete the sum of 117,200*l*. for the new Courts of Justice, &c., Sir R. Cross inquired when it was proposed that the new Courts should be opened. Mr. Shaw-Lefevre said some delay had been caused by the death of Mr. Street, the architect. He hoped, however, that the buildings would be thoroughly completed, and that the judges would be able to enter upon their duties in them, on the first day of term after the Long Vacation. Mr. Sclater-Booth hoped the right hon. gentleman would be able to give some assurance to the Committee that the present law courts in Westminster Hall would be pulled down. Mr. Shaw-Lefevre had not yet consulted the Government on this matter, but hoped that the course indicated by his right hon. friend would be pursued. There was a certain obligation to the public that the old Courts should be pulled down so that the exterior of Westminster Hall might be seen. What the general effect would be was at present a matter of doubt. He believed Sir Charles Barry was of opinion that the general architectural effect would not be altogether satisfactory, and that he had contemplated another wing of the Houses of Parliament, but in regard to this no decision had been arrived at. The vote was agreed to.

A Window for New Zealand.—A very handsome stained-glass window, which is about to be sent to New Zealand for the music warehouse of Messrs. Milner & Thompson, of Christ Church, New Zealand, has been on view in the show-rooms of Messrs. Heaton, Butler, & Bayne, of Garrick-street, London, who have designed and executed the work. The window consists of a large circular-headed centre panel and two side panels. In the centre are two figures representing the lyric muse, Euterpe, and the god Apollo with the golden lyre. In the upper portion of the same window are medallions, supported by Cupids holding a scroll, with the legend, "From heavenly harmony this universal frame began." The names of eminent musicians are introduced into the side windows. This glass is of special interest, inasmuch as it is the first specimen of high-class work that has been sent to this colony. The window will be exported by Messrs. H. Cohn & Co., of London Wall.

Messrs. Chubb & Son, the patent lock and safe makers, are about to transfer their lockmaking factory from Wolverhampton, as we have already mentioned, to the large Patent Safe Works built by them, a few years ago, in Glengall-road, Old Kent-road, London; but they want a little further explanation. At the London works they have room for 1,000 workmen, and already possess extensive boiler and engine power, together with a quantity of powerful machinery. They propose to add special machines for making certain parts of their locks, leaving the more complicated and delicate work to be done, as now, by hand. Messrs. Chubb have made about one million locks and many thousands of safes since commencing business, sixty-four years ago. The average length of time each workman (including boys) has been in their employ is seventeen years. Messrs. Chubb are evidently good masters.

A Parochial Experiment in Dusting and Cleansing.—The Works Committee of the Clerkenwell Vestry have made a report of the operations and results of their staff doing the dusting, watering, &c., of the parish during the past year, from which it appears that the total cost amounted to 5,460*l*. 10s. 10d., the receipts to 1,295*l*. 1s. 5d., making the cost for the year 4,165*l*. 9s. 5d. This sum is stated to be only 220*l*. above the average of the previous six years, and the committee remark that this slightly increased cost is more than compensated by the greatly increased efficiency with which the work is performed by their own staff.

Prizes for Good Plumbing.—On Monday, the 17th, the prizes awarded for success in the recent public competition for practical plumbing, instituted by the National Health Society, and carried out at South Kensington, were presented at a meeting of the Society. To Mr. Geo. Taylor, Duke of Westminster prize, 5*l*.; to Mr. John Wise, National Health Society's prize, 5*l*.; to Mr. George William Hamblin, second prize of 3*l*. The competition followed on the series of lectures given by Mr. S. Hellyer, at the Society of Arts. The prizes were awarded on the adjudication of Mr. George Shaw.

London and Middlesex Archæological Society.—By permission of the rector and churchwardens of St. Olave's, Hart-street, a general meeting of the Society will be held in the church, on this Saturday, the 29th, at half-past two p.m., when the following Papers will be read:—"On the History and Antiquities of St. Olave's," by the Rev. A. Povah, M.A.; "The Worthies connected with the Church," by Mr. Henry B. Wheatley, F.S.A. The Society will next proceed to view (by the courtesy of the Vicar, Canon Thomas, M.A., and the churchwardens) the Church of All Hallows, Barking. An account of the building will be given by the Rev. J. Maskell, M.A.

Mr. Ruskin's Sheffield Museum.—Mr. Ruskin met the Mayor of Sheffield and a number of influential gentlemen last week, to discuss the question of enlarging St. George's Museum. This museum is situated at Walkley, a suburb of the town. Its contents, all of which belong to Mr. Ruskin, are so numerous, and the house is so small, that only a comparatively small portion can be exhibited. It is now proposed to erect a large and suitable building by subscription. If this be done, Mr. Ruskin expressed his willingness to put the museum on a legal basis, so as to insure its permanence to the town, and said he hoped to devote much of his time to making the museum the most perfect of its kind in the world.

TENDERS

For second portion Gloucestershire Second County Lunatic Asylum, Barnwood, near Gloucester. Messrs. John Giles & Gough, architects. Quantities by Mr. C. H. Goode:—

Drew, Chalford	£40,212	0	0
Bowers & Co., Hereford	38,380	0	0
Davies, Cardiff	38,050	0	0
Smith, Birmingham	38,002	0	0
Barnsley & Sons, Birmingham	37,800	0	0
Horsman & Co., Wolverhampton	36,890	0	0
Sanders, Southampton	36,868	0	0
Lovatt, Wolverhampton	36,645	0	0

Accepted for the Fulwood and Whittingham waterworks. Mr. John James Myres, C.E., 15, Chapel-street, Preston, Lancashire. Quantities by the engineer:—

Contract No. 1, Storage Reservoir.			
Robert Simpson	£8,026	13	2
Contract No. 2, Conduits.			
Robert Simpson	£775	13	2
Contract No. 3, Iron Pipes.			
W. Allsup & Sons	£6,598	0	0
Contract No. 4, Laying Iron Pipes.			
Walmsley & Co.	£1,885	0	0
Contract No. 5, Service Reservoir.			
James Jemson	£2,120	18	5
Contract No. 6, Buildings.			
Battersby Bros.	£1,107	6	0
Contract No. 7, Compensation Reserve.			
Robert Simpson	£1,136	19	2

For building new Board School in Oxford-gardens, Notting-hill, for the London School Board. Mr. E. R. Robson, architect:—

Oldrey	£10,992	0	0
Higgs	10,325	0	0
Lawrence	10,199	0	0
Nightingale	9,981	0	0
Outhwaite	9,797	0	0
Pritchard	9,700	0	0
Stimpson & Co.	9,485	0	0
C. Wall	9,440	0	0
Atherton & Co.	9,400	0	0

For additions and alterations to residence, North-hill, Highgate, for Mr. Roger Gaskell. Mr. Stephen Box, architect. Quantities by Messrs. Walker Bros.:—

Lawrence	£1,441	0	0
Wall Bros.	1,385	0	0
Smith & Son	1,249	0	0
Holmes & Sons	1,197	0	0

For the erection of a detached house, with stable, in the St. Nicholas-road, Upper Tooting, for Mr. W. S. Bidlake. Mr. H. Wakeford, architect:—

Williams, Balham-hill	£1,650	0	0
Smith & Son, Warwick-street	1,395	0	0
W. Johnson, Wandsworth-common*	1,371	0	0

* Accepted.

For taking down and rebuilding 34, Castle-street East, and premises in the rear, for Mr. R. L. Cripps. Mr. A. E. Hughes, architect:—

Falkner	£2,787	0	0
Cooper	2,579	0	0
Burningham & Co.	2,327	0	0
Cheffins*	1,980	0	0

* Less 60*l*. for old materials.

For shop-front at York Town, Surrey, exclusive of plate glass, for Mr. H. Savage. Mr. F. G. Norry, architect:—

Allcock (accepted)	£275	0	0

For alterations and additions to National Schools, Camberley, Surrey, for Rev. F. M. Middleton. Mr. Francis T. Dollman, architect. Quantities by Mr. T. W. Davis:—

Allcock	£634	10	0
Watson	550	0	0

Accepted for new store and warehouse, Booth, Luddenden:—

Roland Gaukroger, Mount Tabor (masons' work).
J. & S. Murgatroyd, Luddenden (carpenter and joiners' work).
Jonas Alderson, Luddenden Foot (plumber and glaziers' work).
G. & T. Alderson, Luddenden (slater and plasterers' work).

For the erection of new schools (to accommodate 1,400 children) at Nunhead-passage, Lambeth division, for the School Board for London. Mr. E. R. Robson, architect. Quantities prepared by Mr. T. T. Green:—

Scrivener & Co.	£16,388	0	0
Hart	16,146	0	0
Shepherd	15,896	0	0
Nightingale	15,569	0	0
Higgs & Hill	15,484	0	0
Oldrey	15,442	0	0
Marsland	15,361	0	0
Peto Bros.	15,318	0	0
Downs	15,279	0	0
Tongue	14,900	0	0
Jerrard	14,743	0	0
Kirk & Randall	14,735	0	0
Perry & Co.	14,595	0	0
Wall	14,180	0	0

For the new infirmary, Canterbury. Mr. Cowell, architect:—

Jones, Gloucester	£3,680	0	0
Stiff	3,675	0	0
Cornelius	3,649	0	0
W. Cozens	3,474	0	0
J. Cozens	3,466	0	0
R. Hatton	3,428	0	0
Denne Bros.	3,385	0	0
Adcock	3,363	0	0
G. H. Denne	3,300	0	0
Bourne	3,290	0	0
Wallis & Co., Maidstone	3,278	0	0
Wise	3,200	0	0
Gaskin (accepted)	3,146	15	0

For repairs, &c., at No. 7, Coleherne-road, Kensington, or Mr. Bushell. Mr. H. I. Newton, architect:—

R. & H. Pickersgill	£115	0	0
Wood	95	0	0
Simpson (accepted)	89	0	0

For the erection of the first portion of Emmanuel Church, Hornsey-road. Messrs. Frederic R. Farrow & E. Swinfen Harris, architects. Quantities by Mr. Clement Dowling:—

G. H. & A. Bywaters	£4,985	0	0
Dove Bros.	4,575	0	0
Williams & Son	4,310	0	0
L. H. & R. Roberts	4,237	0	0
Lathey Bros.	4,235	0	0
Boyce	4,220	0	0
Hook	4,042	0	0
Gaisford	3,993	0	0
Taylor & Grist	3,818	0	0

For Waterhead Board schools, Oldham, exclusive of foundations and retaining-wall, which are in progress by schedule. Mr. Thomas Mitchell, architect:—

S. Ashton & Sons, Oldham	£5,737	0	0
W. Lees & Sons, Oldham	5,334	0	0
T. & W. Meadows, Stockport	5,319	0	0
C. Schofield & Co., Oldham	5,300	0	0
W. A. Peters & Sons, Rochdale	5,235	0	0
Jackson & Randall, Oldham	5,158	0	0
Dysons & Sons, Oldham	5,027	0	0
Holmes & Webster, Ashton	4,668	0	0
Cabinet Company, Oldham*	4,586	0	0

* Accepted.

For the erection of Bryn-heilog, Forest-hill, for Mr. W. P. Appleton. Mr. Herbert D. Appleton, 264, Wool Exchange, architect. Quantities supplied by Mr. F. T. W. Miller, 6, Guildhall-chambers:—

Patman & Fotheringham	£3,943	0	0
H. & R. Roberts	3,794	0	0
W. Smith	3,779	0	0
Colls & Sons	3,663	0	0
Clarke & Bracey	3,592	0	0
Merritt & Ashby	3,553	0	0
Nightingale	3,587	0	0
Howard & Dorrell, 28 and 29, Russell-street, Covent-garden (accepted)	3,383	0	0

For building a cottage at Mile-end, Colchester. Mr. W. Scargill, architect:—

Garwood	£260	0	0
Gladwell	180	10	0
Dupont (accepted)	177	0	0

For pulling down and rebuilding 108, Union-road, Rotherhithe, for Mr. Brodie. Messrs. Snooke & Stock, architects. Quantities by Messrs. Linsdell & Giffard:—

Priestley	£700	0	0
Smith	697	0	0
Everett	670	0	0
Pritchard	656	0	0
Wells	655	0	0
Eldridge & Gee (accepted)	645	0	0

For the erection of shops and houses in the High-street, Peckham. Mr. E. George Wyatt, architect. Quantities by Messrs. Quilter & Hardcastle:—

Nightingale	£12,430	0	0
Merritt & Ashby	12,222	0	0
Hook	12,050	0	0
Shepherd	11,980	0	0
Bentley	11,686	0	0
Wall	11,080	0	0
Gibbs & Flew	10,500	0	0

For painting, &c., Angler's-gardens School, for the London School Board:—

Boyce	£262	0	0
McCormick	191	0	0
Grover	190	0	0
Dearing & Son (accepted)	182	16	0

For building dwarf wall, with railing, at Hornsey-rise, for the Islington Vestry:—

Porter	£145	0	0
Cave	121	0	0
Toop	115	0	0
Powell	113	12	6
Quirk	100	0	0
Dearing & Son (accepted)	97	10	0

For the erection of a residence and making road to same at Datchet, Bucks, for Mr. William Shipley. Mr. A. A. Hudson, architect:—

Joseph Higgs, Upper Park-place, London (accepted).

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